

QUARTERLY JOURNAL OF THE WORLDWIDE KITE COMMUNITY

KiteLines™

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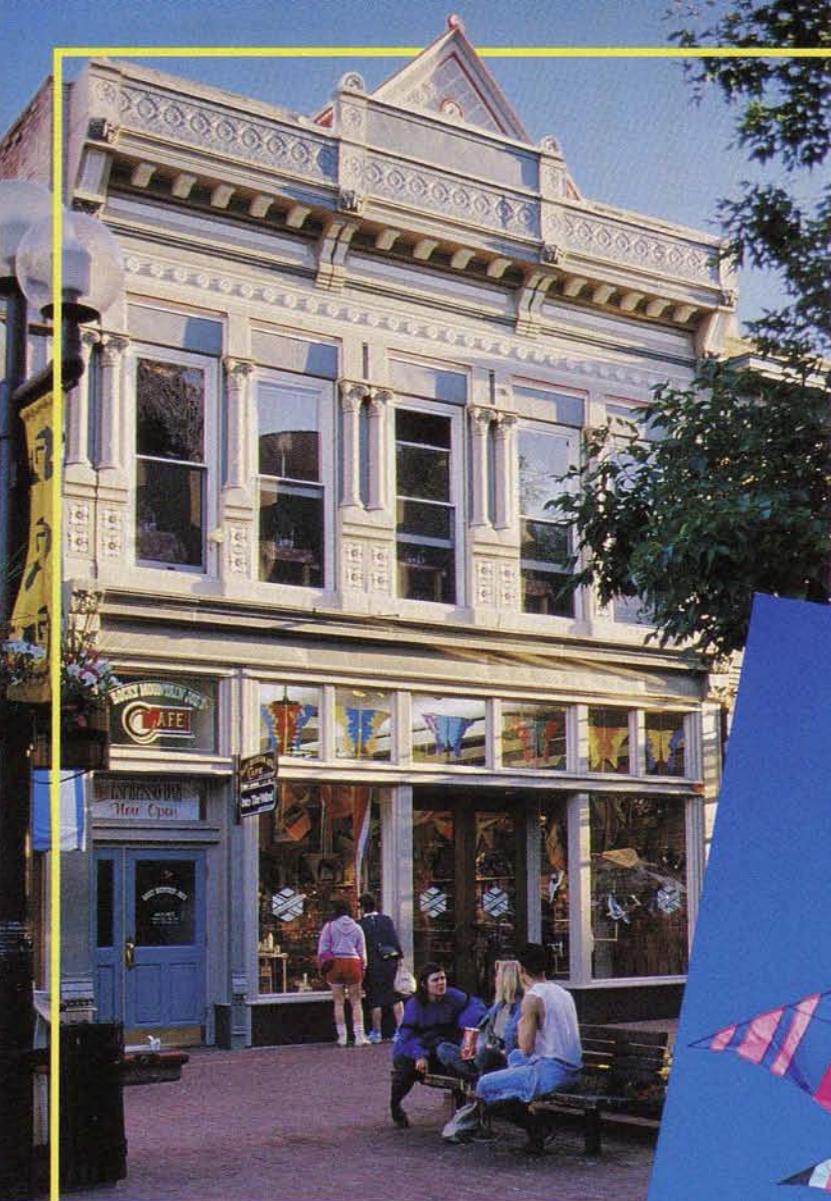
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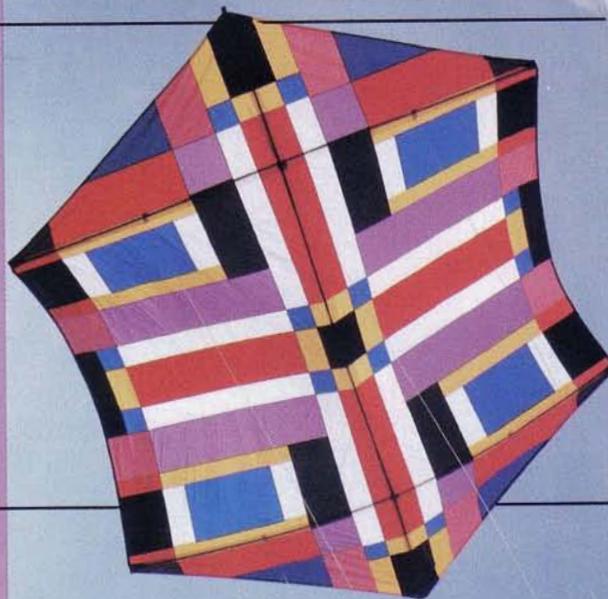
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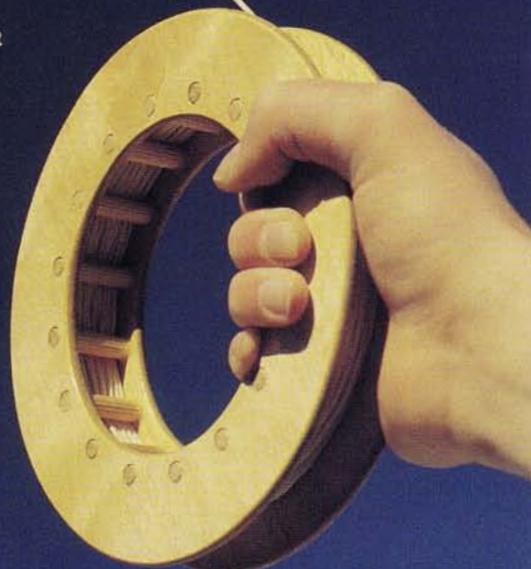
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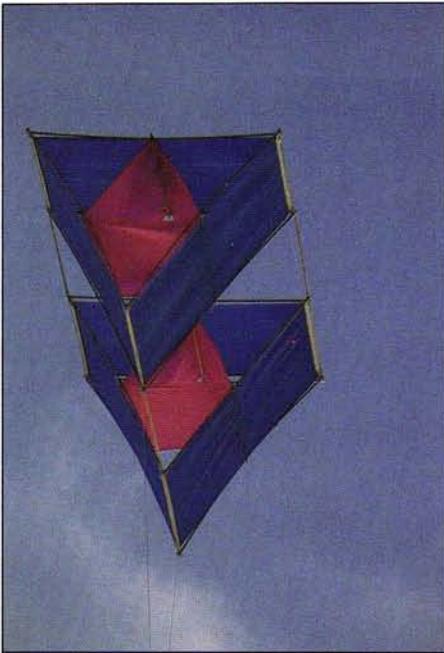
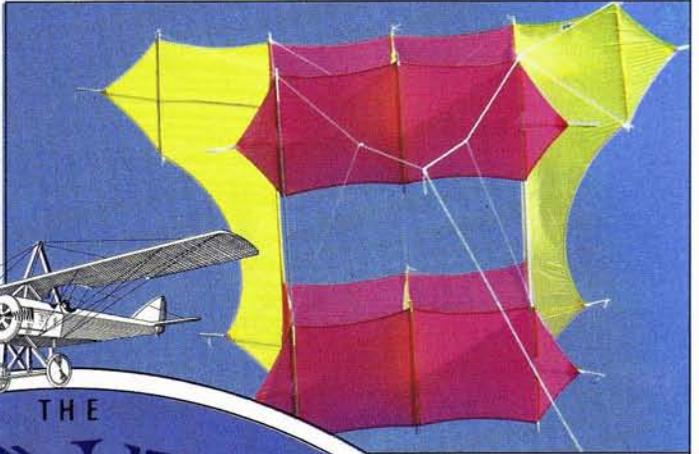
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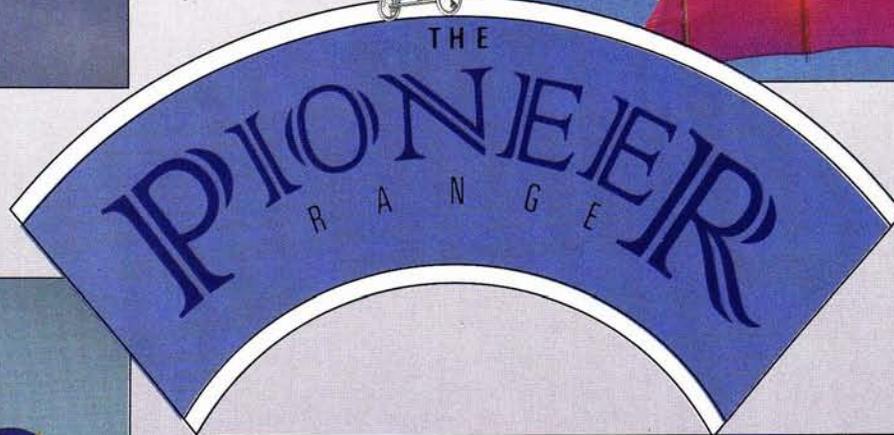
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532 Boxer 2	270cm × 150cm	115 kilo
533 Cody 1	180cm × 110cm	80 kilo
534 Cody 2	240cm × 150cm	170 kilo
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KiteLines

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Cover

The bazaars of Ahmedabad, India overflow with kites and flying line in
anticipation of the day known as Makar Sankranti, when millions of Indians
celebrate the returning of the winter sun. Photograph by Setu Shah.

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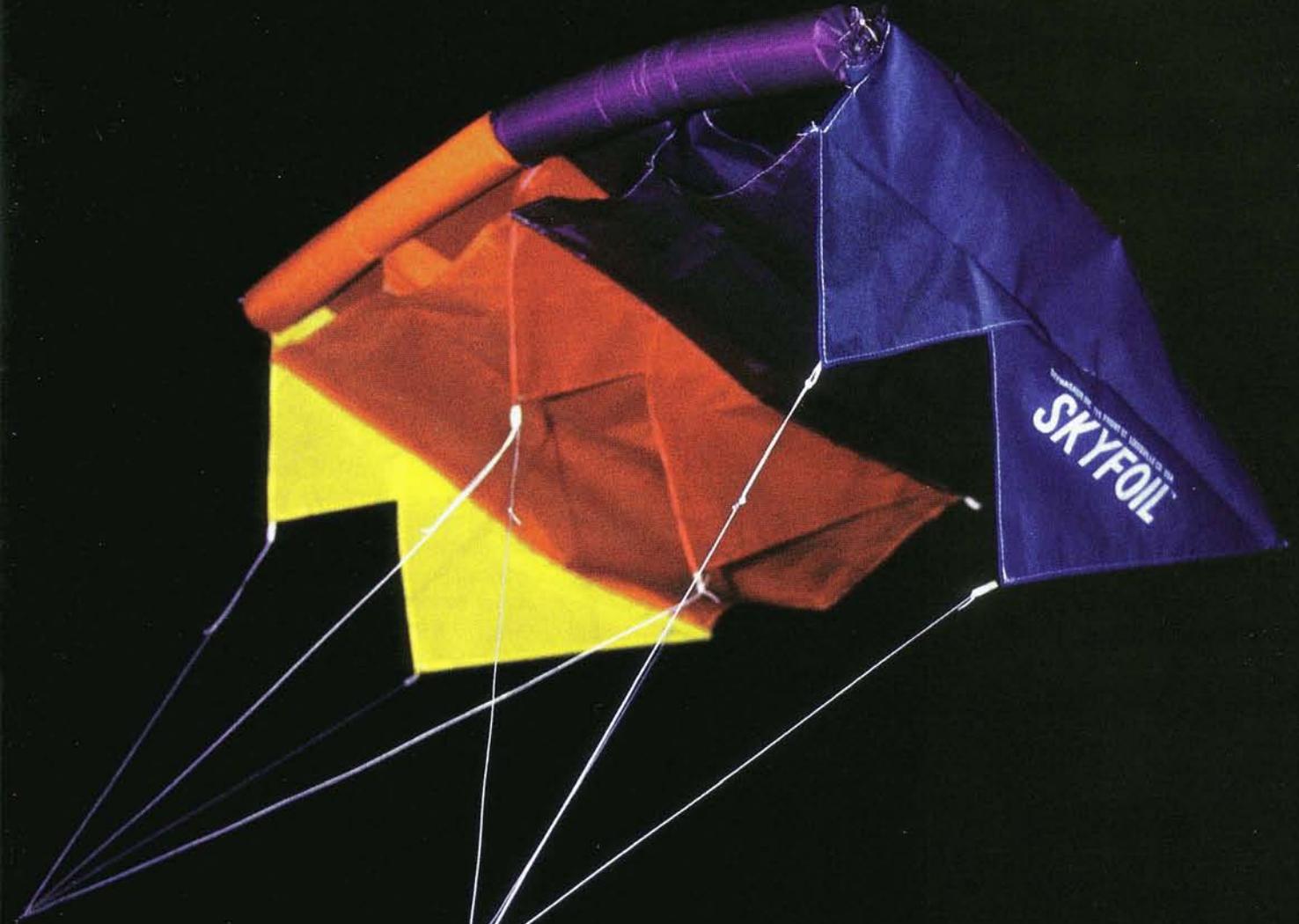
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Stress & Strain: Stunter & Stable

Are stunt kites eclipsing stable kites? I've talked to many kilters about this, and the question turns out to be more complicated than it seems. The effects are several: human, economic and environmental. But let's be more specific.

Stunt kites seem to bring out a competitive streak and to attract aggressive folk who come in conflict with the more laid-back single-liners.

Reminds me of a description I heard somewhere of auto driving attitudes. If you're driving along at the speed limit and someone passes you, you say, "Look at that reckless dummy." If you're driving along at the speed limit and someone is going slower, you pass and say, "Look at that slowpoke dummy."

It's easy to disparage whoever isn't going your speed, whether the flier is a stunter or a single-liner. It's much harder to put yourself in the other flier's shoes.

Economic effects have yet to be measured firmly, but it is certain we're seeing

a big change in the kite business. "Peter [Waldron] is having a hard time this year," said distributor Judy Neuger of What's Up. "He doesn't have a stunter!" I wondered if stunt kites were about to try for a hostile takeover. I considered:

Exhibit A: The East Coast Stunt Kite Championships, alone its first year, now marks Year IV in company with four or five other major events plus regional ones and some in foreign countries too. A characteristic of these competitions is the pile of greenbacks pouring into them—and out of them in the form of prizes.

Exhibit B: Two books just came out on stunt kiting (see *What's New: Books*, page 19). The impact here at *Kite Lines* shows in the advertising (stunt related ads are now 30% vs 15% in 1986) and in editorial space as well.

Exhibit C: The variety of stunt kites in stores is dizzying. Each new model shakes the market anew. Some people hint that the stunt kite boom is only a fad. ("Move

over, Frisbee!" it says in *The Stunt Kite Book*. The comparison is not comforting.)

It was not long ago that we stated the scary truth that urban areas are *running out* of safe and adequate space for kite-flying. Most of us at one time or another have experienced tangles and conflicts on fields with only so much space available. Stunt kites take up large expanses of horizontal area and are not easily gathered into the relatively cozy groups of vertically flying single-liners. Space limitations make safety a bigger-than-ever concern.

In real life, these conflicts overlap and interrelate. With forbearance and in the long run, we may survive the human and economic challenges. But the environmental and safety problems are daunting. They ask all of us to make a commitment—sooner, not later—to secure and maintain the open space we need on earth to keep our kites flying in the sky.

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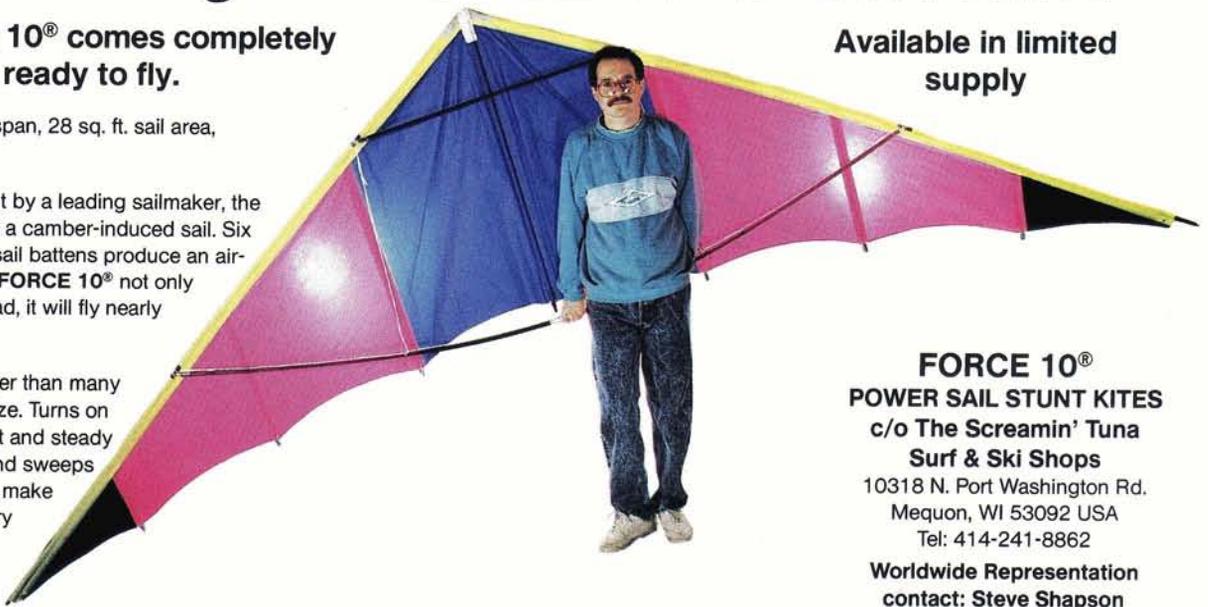
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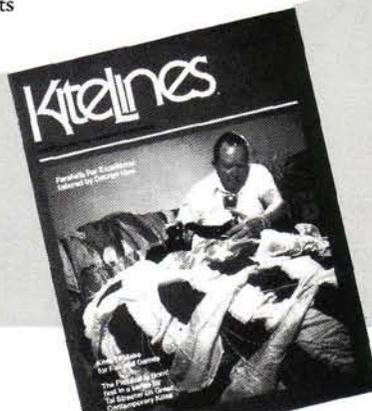


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Display space: 1600 square feet
Hours: 10:00-5:30 (Mon.-Sat.) and 12:00-5:30 (Sunday)
Years in business: 16
Years profitable: 10
Years carried Kite Lines: 12
Owners: Ken Conrad and Suzanne Sadow
Ages: 40 and 36
Favorite foods: Antique apples and chocolate

Last kite books read: *Kites* by Ron Moulton and *World on a String* by Jane Yolen
Favorite flying spot: On the sod, under the sun, in a steady wind
Latest promotional effort: New Year's Day 1989 and the Dave Checkley Memorial Kite Fly
Specialties of the shop: Unusual imported kites, Halo spools in all sizes and the Frustrationless Flyer Kite Kits

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Favorite issue of Kite Lines: Winter 79-80, with the story on Louise Crowley and "Shirone Comes to Seattle"

Doesn't your store carry *Kite Lines*? To learn all about the benefits of doing it, write for retailers information package to: *Kite Lines*, P.O. Box 466, Randallstown, MD 21133. Or telephone us at 301/922-1212.



Letters

Kites by Radio

During the last 20 months, which include our Bicentennial Year, 1988, I have spent 22 weeks on tour kitemaking and flying.

I made a return visit to Northern Territory and spent a day at the largest school in the world—the Katherine School of the Air. It is a school *by radio* to remote stations up to 1,000 kilometers apart. I gave a class, by radio, with no prior drawings or anything and spoke to many of the children. They were to make a sled kite from pieces of scraps which they had to collect in an hour or so.

Imagine the looks on the teachers' faces when the children eventually returned to their microphones and reported, with few exceptions, "Mine flew!"

David Chandler
 Tasmania, Australia

Philippine Contact

In December 1988 on a trip to Manila, after seven years of searching for contacts in the Philippines, I met Oscar Reyes, Reynaldo Bartolome and Johnny Morales.

Oscar has been flying kites for about 30 years (since the age of 13) and he is the group's leader. Reynaldo is a painter by trade and Johnny, a carpenter.

They appear to be into winged box kites with bamboo frames, plastic covered. They showed me a photograph of one, about three meters (10 feet) in length, in the form of a crucifix. Oscar said the idea of a flying Jesus on a cross came to him in a dream.

They have had very little exposure to the outside kite world.

Oscar said his father flew kites as a boy. Thus we know the tradition goes back sixty years at least. Does it go back 500 years as Malaysian kite culture does? Do we have readers in the Philippines who can check old works of reference, the museums, etc.? Is there an indigenous Filipino kite?

I dug up the following Tagalog words for kite: *saranggola* (the most common term); *guryon* (possibly one of the dialects used in the Visayan islands. From a sketch made by Oscar, it looks similar to our Malaysian *wau bulan.*); *boka-boka*; *sapi-sapi* (a small fighting kite, sometimes with a tail); and *layang-layang* (our own Malay generic term for kite) commonly swallow-shaped in the Philippines.

Readers of *Kite Lines* are encouraged

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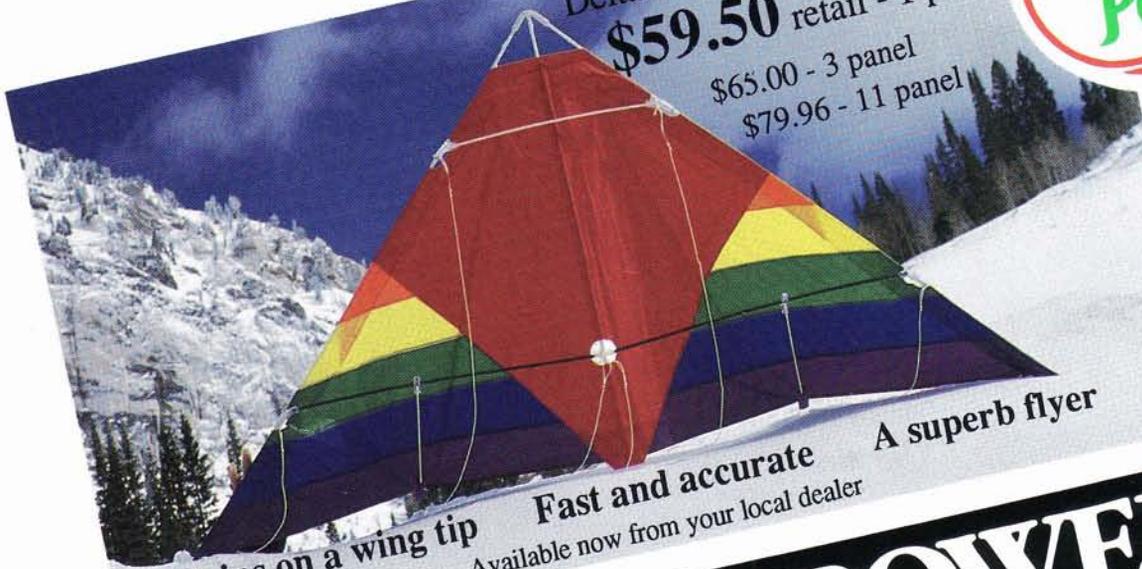
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Letters . . . Continued

to write or visit Oscar. His address is: 27
Marathon Street, Kanuning, Quezon City.

Shakib Gunn
Singapore



Kids & Kites

From the first of April until early May, my class and I did almost nothing else but study about and make kites.

We heard the history of kites, learned and experimented with the principles of aerodynamics, compared kite flight with planes and rockets, read kite stories, wrote letters to kite related organizations and, of course, we made kites.

I've developed this unit over the past three years, and it now covers all content and subject areas. It has also become a tradition in my class—and my personal favorite.

Not only did the children learn, but they had fun doing it. And that's what counts.

To all of you who wrote back to my kids, thanks a lot for taking the time to make a child smile.

P. Matthew Dillon
Liberty Elementary School
Valley Cottage, New York

Corrections

The tetrahedral kite on page 41 of the Winter 1988-89 issue of *Kite Lines* was incorrectly credited. The maker of the large, multicolor kite is David Chandler of Hobart, Tasmania, Australia.

In reporting the results of the IIEKC (page 28 of the same issue) we incorrectly listed the winner for Greatest Lift. The award belongs to Kodo Yamada of Yokohama, Japan, whose score was 26.004 in that category.

You are invited to write letters for this column and reply to them through *Kite Lines*. Any letter to us may be considered for publication, so please tell us "not for publication" if you want no doubt to be left about it. Write to us at: *Kite Lines*, P.O. Box 466, Randallstown, MD 21133.

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Although known mostly for his work on the telephone, Bell also had a consuming interest in kites. Favoring the tetrahedral cell for its strength and stability, he designed and constructed many tetras during his lifetime.

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Dutch Car, British Cube, American Rose

By Mel and Valerie Govig, with help from A. Pete Ianuzzi

Box Car

If you have always wanted to fly a car, here is one that is *relatively* easy to assemble, flies pretty well, and then collapses into a long thin package for storage or transport.

In flight, the Car Kite—a box kite in the shape of a car—demonstrates the old principles: if it is sufficiently symmetrical and light and has enough lifting and stabilizing surfaces, almost any “box” will fly. If one finds the correct bridle point(s), the kite will fly *well*. The Car Kite meets all of the above criteria.

In steady winds of 8 to 15 mph, the Car Kite flies at a respectable 45-degree angle. Because of the forward set of the bridle, the kite does not develop excessive lift. It can be flown safely by an elementary school child on 50-pound line.

The Car is well crafted by Jan Pieter Kuil and Janne van Nederpelt of Vacuum Kites in The Netherlands. At the present time, Vacuum Kites has no American distributor, so if you want one of their unusual flying objects (and they have so many in their catalog we could hardly choose one), you must find a kite store that is willing to get you one or you must order it directly from the factory.

Our test kite came to us from The Netherlands with its four main longerons broken in shipping. (The kite also has two minor longerons and eight bracer spars, for a total count of 14 sticks.) Our friend Pete Ianuzzi fabricated a set of replacement sticks with ferrules in their middles so that when we travel we can break the Car down without breaking it up.

In spite of the problems we had getting and repairing it, the kite makes it all worthwhile. When we fly it, people are drawn as if by extraterrestrial forces. “Oh! A car kite!” they exclaim, and the smiles bloom. Once when it was parked on the ground, a four-year-old picked it up and carried it around. That was fun!—M.G./V.G.

The Metric Cube

One of a family of kites called “The Flying Squad” from Greens of Burnley, Le-Cube is another fine example from one of the longest standing makers of cloth kites in business.

Sturdily made, Le-Cube at first puts one off by its size and number of spars. Forming a near-perfect cube approx-

imately one meter along each edge, the kite contains more than 16 meters of 3/8-inch wooden dowel and weighs just over 2.5 pounds. Remembering Brookites, I wonder if Le-Cube is another indication of something in the British temperament that tends toward substantial structures.

In appearance—if not in fact—Le-Cube is a pair of classic 80-year-old Lecornu kites, done up in modern ripstop. (At this point I must confess to a tinkerer's temptation to saw the thing in half just to see what would happen.)

The twins are held in place, one behind the other, by five stout longerons, thankfully installed in their proper sleeves when the kite comes out of its bag. The installation of the remaining 16 dowels is helped by the fact that they are all of identical length.

Built for strong winds, Le-Cube flies easily in breezes above 10 mph. Using the bridle arrangement provided, the kite moves up and down, side to side with every shift in the wind. It also requires launching assistance except in steady winds, when it can be launched off the hand.

At a respectable 45-to-50-degree flying angle, the kite pulls hard on the line. The Greens recommend 250-pound-test.

To make Le-Cube easier to launch and to reduce some of its dancing, I added a fourth bridle line to the bottom front corner. So bridled, Le-Cube can be stood on its feet (base? tail? stern? rear?—what do you call the bottom of a sitting box kite, anyway?) and given a high start launch on 100 or more feet of line without an assistant.

In our test of Le-Cube, we tried flying in difficult winds of 4-5 mph, gusting to 15-20. In the process, the kite was bounced to the ground every time the wind dropped. Le-Cube bounces well.

Other manufacturers could learn from the rugged construction techniques and unique rigging employed by the Greens (David and Sarah). We should all remember that if a kite is expected to have several pounds of free lift, a few extra ounces of reinforcing will not be noticed in its flight performance, but will certainly be noticed in its durability. —M.G.

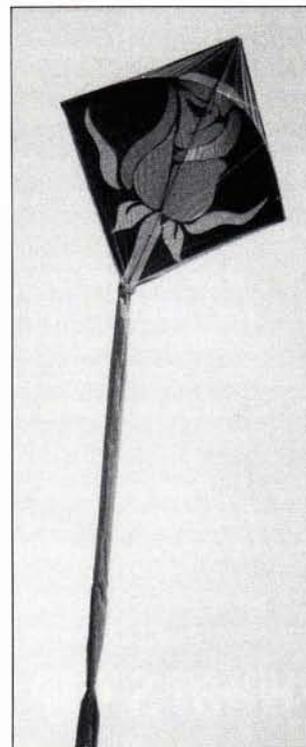
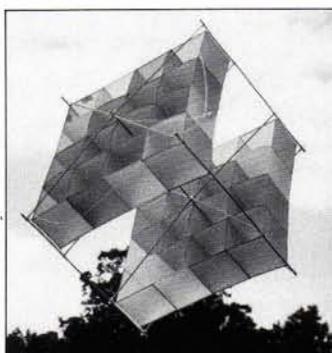
A Rose De-Thorned

Appropriately named “American Beauty,” the rose on this kite is lovely on the ground and even lovelier in the air, with the sun glowing through it.

Roses applied on diamonds, deltas, dragons and even rokkakus are not un-

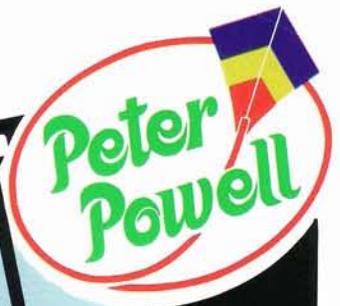


This issue's test kites in flight: above, the Car is a fun-to-fly box; far right, the American Beauty crowns a green tubular tail; near right, Le-Cube is formidable in design and structure.



Valerie Govig

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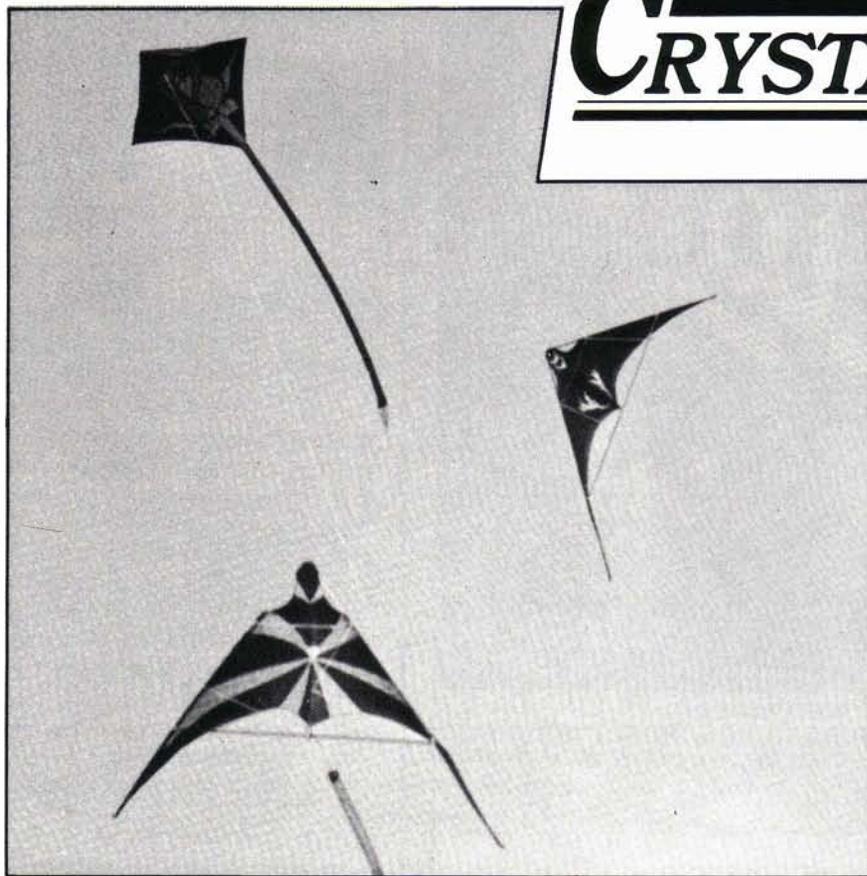


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usual. However, the application of the rose to a hata-type kite is new to us, and the tubular green stem of a tail is certainly effective visually. That's the good news.

The bad news is that, even with its tail, the Rose as delivered is too much of a hata for a kite so large. It is a fairly effective fighter kite, but *too large* to fight or maneuver without damage to one's bare hands and potential danger to onlookers. I have already replaced the

1/4-inch fiberglass cross spar with a 3/16-inch one to see if the kite would behave more like a beauty and less like a beast. It worked. I now have a long-stemmed "American Beauty" without thorns.

The kite is a product of Roger Chavez and Roger Hyde of The Crystal Kite Co. in La Habra, California. I have told the two Rogers of my cross-spar change—and they have assured me that 3/16-inch fiberglass spars *are* available. With the thinner

spar, the Rose is good for those times when you don't care to struggle with an active or hard pulling kite.

In winds from 4 to 15 mph, the Rose flies at 55-60 degrees on a fairly light line. Workmanship is better than good.

The long center spine—also fiberglass—is a two-piece unit for compact storage and easy transport. I appreciate that because this is a romantic American kite that I want to fly in many places. —M.G.

DATA CHART

Name and Shape of Kite	Retail Price	Dimensions (inches)	Weight (ounces)	Major Components	Portability	Assembly Time	Durability	Wind Range	Ease of Launch	Skill Level
Vacuum Kites Car Kite 	135.00 (plus shipping)	22 x 20 (58 front to rear)	15.8	ripstop, wood dowel, plastic tubing	F	3.0 min.	F	5-15	E	N-I-S
Greens of Burnley Le-Cube 	130.00	40 x 40 (44 deep)	41.0	ripstop, wood dowel	VG	7.5 min.	E	10-25	F	I-S
Crystal Kite Co. American Beauty Rose 	90.00	56 x 56	9.9	ripstop, fiberglass rod	VG	1.0 min.	E	5-20	E	N-I-S

NOTE: Retail price (in US dollars) is "advertised" or "suggested." Wind range (in mph) covers minimum and maximum speeds deemed suitable by our evaluators. Skill Levels are: N-Novice, I-Intermediate, S-Skilled. Other ratings are: P-Poor, F-Fair, G-Good, VG-Very Good, E-Excellent. Dimensions (in inches) are in the following order: height x width. Measurements and drawings were made with the kite standing upright on the floor facing the viewer.

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Ultralight SPIN-OFF	3 oz	6 (Low)	
4-49 Aluminum/Carbon	3 1/2 oz.	1 (High)	.284"
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3-30 Aluminum/Carbon	2 1/2 oz.	4	.258"

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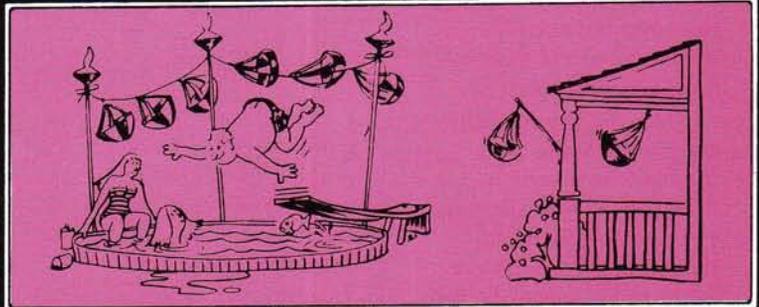
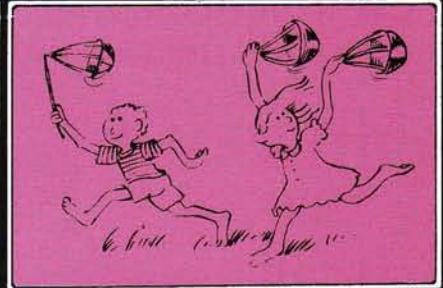
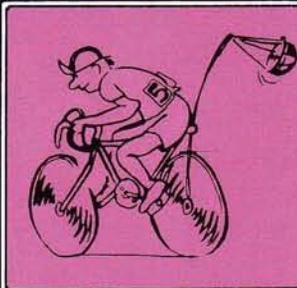
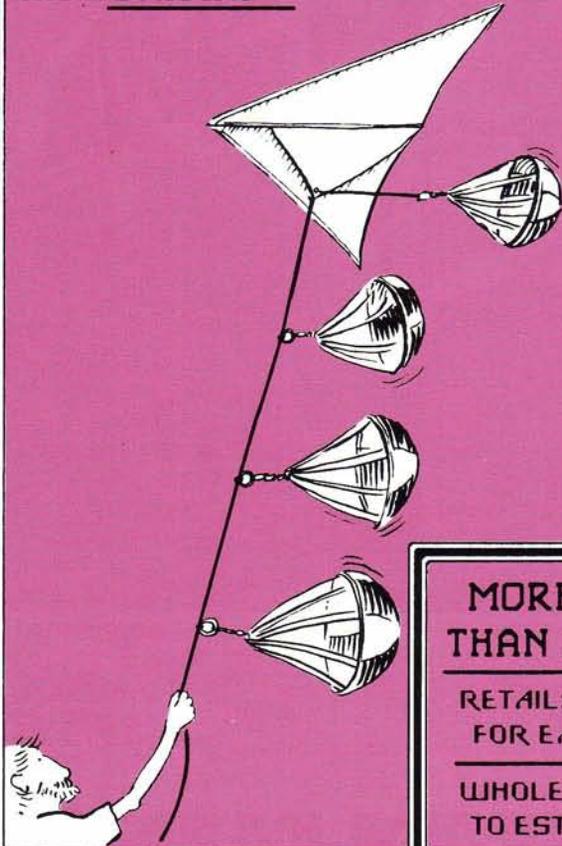
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Good News! Good Books!

By Bill Goodwin, Valerie Govig, A. Pete Ianuzzi and Kalman V. Illyefalvi

Paper Pleasure

Papir Sarkany (Paper Kites) by Istvan Bodoczky (Budapest, Hungary: Muszaki Konyvkiado, 1988), in Hungarian, softcover, 80 pages, 150 forint (about \$19.95).

Every once in a while, a book reviewer gets a lucky break. He is asked to review a book that becomes a pleasurable task. In this case, the author was responsible for not only all the text and drawings, but also the book's graphic design. The labor of his love is evident.

Papir Sarkany is profusely illustrated with appropriate drawings, supported by excellent color and black-and-white photographs. The book is accompanied with two supplements—large sheets of colorful tissue paper on which are printed two original easy-to-make kites, one bird-like, one Eddy-like.

The concept of the book is simple. Very large or complex kites, which usually are constructed of nylon and flown in moderate or strong winds, are detailed in plans to be made on a moderate to small scale from paper, and flyable in light breezes. (As the author said in a letter to *Kite Lines*: "There are some kites which can only be made of paper, but there are no kites which—on a reasonable scale—cannot be made of paper.")

The degree of difficulty for each kite plan is indicated by an asterisk scale, with a single * being easy and ***** being the hardest. (This is a good system, but is a Cody just a ***)

The text of the book is enjoyable, well organized and clearly written (if you are fluent in Hungarian, of course).

The first few pages are devoted to the history of paper kites and kites in Hungary. Next is a brief, but generously illustrated, chapter on the basic techniques of paper kite construction. The diagrams speak for themselves. Interspersed through all of this are principles of flight, safety rules, helpful hints on kiteflying and designs of a few early and simple kites.

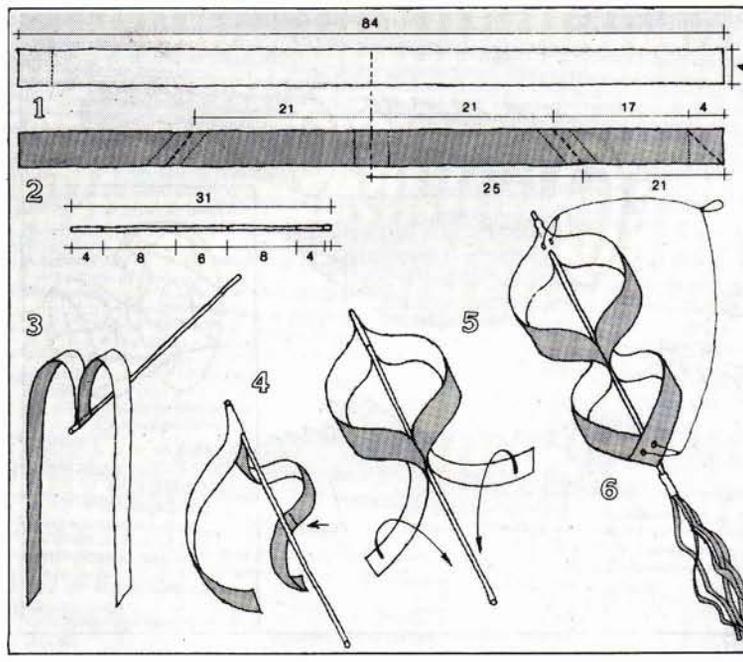
The balance of the book—about 4/5ths of it—is devoted mainly to the making of particular kites. In this—his second—kite book, Istvan Bodoczky deals with more than 50 kite designs. He made and test flew every single kite that is illustrated. At the same time, he credits the original designers appropriately. A reader of *Kite Lines* will be familiar with many of them,

but some are new: the refreshing Song kite, the very original Ribbon kite and (naturally!) the blood-spattered Dracula kite.

The author briefly introduces items such as kite trains, dueling with kites, sending a messenger up the line and drop-

ping a parachute, kite traction, kite fishing, dual-line stunt kites, rokkaku battles, person lifting and aerial photography. Finally, the inside back cover contains a useful bibliography (23 items).

This kite book is a worthwhile addition to the kiteflier's library. —K.V.I.



The Ribbon kite from Istvan Bodoczky's new book on paper kites is simple but elegant. Detailed drawings throughout the book need little translating.

Two Stunt Kite Books Rush In

Stunt Kites! by David Gomberg (Salem, Oregon: Cascade Kites, 1988), softcover, 88 pages, \$8.95.

The Stunt Kite Book by Alison Fujino and Benjamin Ruhe (Philadelphia, Pennsylvania: Running Press, 1989), softcover, 110 pages, \$8.95.

Published only six months apart, these two new books on stunt flying bear the same price but in all other respects could not be more unlike.

Gomberg's book is actually a compilation of material provided by an impressive list of 18 experienced U.S. pilots. Chief among them is Rick Bell, formerly of Hyperkites, who had already prepared much of the contents but wanted no credit for it whatsoever. (Gomberg listed Bell anyway, and *Kite Lines* mentions his contribution now for the record.)

Although the book is already out-of-date (Gomberg himself admits, "Before the ink is dry on this page, new kite designs, materials and applications will become available"...), it will still give a kiter a boost equivalent to weeks of practice

to go through this book *before* spending lots of time outdoors.

Stunt Kites! teaches such useful things as the push turn, the use of fabric protection spray, how to tune a foil, how to perfect the "Eagle-has-landed" landing, concepts for stacking, reverse flying (confusingly called by some "solo" flying) and team practice and patterning. All is delivered with logical sequencing, important emphasis on safety and a sense of humor. Equally as vital as the good information in this book is the *lack* of bad information.

Not that *Stunt Kites!* is a perfect book. There are missing parts: the "history" is compressed into less than one paragraph as part of the introduction; too little is said about handles or winders; the diagrams of stunt patterns are uninspiringly meager; and not a single brand name is mentioned, a decision that provides impartiality but cuts out information. Flaws of commission exist, too, such as the amusing excess of quotation marks.

Perhaps the most painful shortcoming is the book's weak graphics: the cover picture illustrates a body position that is

advised against in the text; and the inside illustrations and page layouts, fresh off a home computer, are ragged, uninviting, even confusing.

But speedy production has its advantages: Gomberg prints only 4,000 copies at a time and has the option of updating as often as the changing sport requires. Updatibility is already a feature of the resources list inserted loose in each book.

The strength of Gomberg's work is the 10 years of experience that the author-compiler brings to the job (and it *does* take experience even to compile material intelligently from other experts). It's a book full of nuts-and-bolts advice and words to fly by, such as: It's Never the Wind's Fault; Don't Be Afraid to Experiment; and Remember the Four C's of Responsible Kiting — Caution, Courtesy, Common Sense and Control.

Finally, there is a paragraph on carpal tunnel syndrome ("stunt pilot's wrist") that alone is worth the price of the book.

We hope the perceived quality of *Stunt Kites!* does not deprive the book of the audience it deserves.

Far better dressed is *The Stunt Kite Book* by Fujino and Ruhe, the boomerang experts. This book will be sold later this year for \$14.95 *with a kite*, a marketing ploy that must have made sense to somebody. In the meantime, we read the book on its own merits as a clear, useful introduction to the sport.

Like Gomberg, these authors worked fast to capitalize on the stunt kite boom. The book is remarkably up-to-date and even has a section on the Revolution I, which, with its four control lines, has started a new offshoot of stunt kiting.

The book does have history, a short and shallow chapter of it. In addition, at the end of each chapter appears a brief biography of a "big name" in the sport. These profiles have no relationship to the chapter topics, an arrangement which is puzzling at first, but once you get used to it you realize that if the bios were all grouped together they might get passed over. They are, in fact, one of the better features of the book.

We found the writing style smooth and the organization good, proceeding from kite selection through launching, troubleshooting and first maneuvers. The latter is very descriptive and helpful. However, once the book gets you started, it abruptly leaves you and goes off to more challenging matters, such as competitions and

fancy maneuver patterns. The chapter on "Fun and Games" is an exception and can be used by novice and expert alike. It brings together neatly a heretofore scattered list of kite games.

There are many slips: the incredible mislabeling of a Japanese Edo kite as a rokkaku and an Indian fighter as Korean; the limited list of stunt kite clubs sans addresses; the strange drawing of a parafoil. The lists of reference books and "Good Places to Fly" were disappointments.

On the other hand, some of the resources lists are helpful, especially the brave effort to chart all manufactured stunt kites into categories for "beginner, intermediate and advanced."

Running Press is known for publishing books with stylish graphics on the latest "in" topics. So we weren't surprised when the editing showed signs of rushing. We were much more shocked that the book's aura of competence was allowed to dim when the black-and-white photos included kites limply hanging on a wall instead of flying, a weird picture of Peter Powell in clown makeup and an ignorant silhouetting of the Skyfoil C26, as well as several photos that simply are too dark, fuzzy or small to offer much. But with its easy-to-read layout and 50,000 print run, *The Stunt Kite Book* promises to reach a broad range of new and uncritical readers. It serves its purposes. —B.G./V.G./A.P.I.

New Edition Notes

From Australia: Helen Bushell had become weary of handling all the details of keeping her two books in print, so she turned them over to a publisher. *Make Mine Fly Vol. 1* and *Make Mine Fly Vol. 2-6* have been replaced, more or less, by one book titled simply *Make Mine Fly*. Included are most of the contents of the earlier books plus new material, notably six full-size paperfold kites along with lots of seasoned advice and information.

From England: Don't be confused. *The Big Book of Kites* by Jim Rowlands, now available in America, is identical to the original British *Making and Flying Modern Kites*. It contains the same kite plans, the same inconsistencies and the same British spellings. However, the *cover* is new: it shows a facet kite—upside down. Similar story on the back cover. If it's any comfort, the book costs less in the American paperback version.

From Germany: Normally for a *Kite Lines* book review we choose a writer who speaks the book's language. We slipped in our Spring 1988 review of Wolfgang Schimmelpfennig's *Drachen bauen und steigen lassen*. The excellent drawings and photographs seduced us into believing the German text was as good as the illustrations.

Now we have the work in an English translation, *Making and Flying Kites*, and suddenly we see flaws that had been hidden before by the language difference. To some extent, of course, these flaws could have been *introduced* by a poor translation. Since Wolfgang speaks good English, we know he didn't translate his own material, or even check it over. If he had, he could have corrected such things as: the transposed Thai *chula* and *pakpao* kites (with misspelled *papkao*, yet); the "carbon fibre tuning" (must have meant "carbon fibre tubing") and the "whizzers" instead of "hummers."

But some of the mistakes seem to have been Wolfgang's own originally, for example the unclear aerodynamics and the serious neglect of safety information. Then of course we have the agony of those awkward metric conversions, which are nobody's fault, but give us an unreal world of tenths-of-inches and optimum winds of 9-1/3 to 18-3/4 mph!

The strong points still come through: high-quality color photographs; many good clear drawings for 15 kites and a spinning windsock, preceded by a *legend* for the drawings (seldom if ever seen in kite books); three pages (originally a fold-out) of diagrams of sewing techniques, joints and knots; and Wolfgang's masterwork, the Double Eddy Flaero Train, generously shared with all makers.

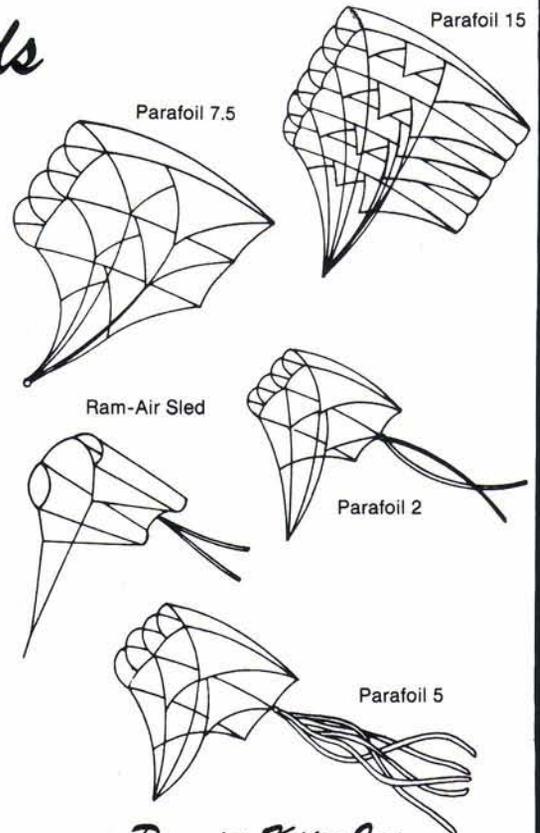
The drawings give the book universal value outside all languages, but the text offers even more tips. (For example: to prevent wooden spar ends from splintering, dip them into adhesive and allow to dry.) Thus, in spite of its shortcomings, Wolfgang's book remains practical and attractive. Besides, the American edition, hardbound, costs less than the paperback from Germany!

So far, this book has been translated into Dutch, Italian and French as well as English. We wonder how the other editions fared. Maybe the English was the best of the lot. The Italian version misspelled the author's name on the cover!

—V.G.

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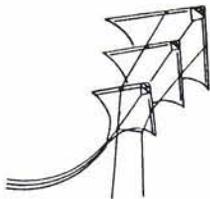
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Charlie's Angel: The Flying Wedge

By Charles A. Sotich

Tools

In addition to the usual kitemaking tools, you will need a small drill (or something to make a clean 1/16-inch hole in thin balsa), a small pair of pliers or wire cutters, a needle, rubber cement and model airplane glue.

Materials

- 1 plastic bag (trash bag or similar, at least 24" x 24"). The thinner and lighter the better.
- 4 dowels, 1/8" diameter, 18" long
- 3 dowels, 1/8" diameter, 12" long
- 2 bamboo sticks, 1/16" diameter, 6.5"

- 12 feet of carpet thread for bracing
- 30 feet of crepe paper streamer for tail
- 1 sheet of thin (1/8") balsa for gussets, large enough to make six 1"x1" triangles. A piece about 1" x 6" should be okay.
- 2 pieces of 1/16" outside diameter aluminum tubing, each piece 1 inch long
- 2 pieces of 1/32" diameter piano wire, each piece 2 inches long

A F O R E W O R D

Anyone who was making and flying kites in the 1960s will know how skimpy the literature was then. There were about six kite books in print, and you had to skulk around the children's department in the library to find them.

The book by Marion Downer, *Kites: How to Make and Fly Them*, published in

bibliography, I was careful when including Downer to warn people about the Flying Wedge, the "notorious nonflier."

Ted Manekin had been a judge at our festivals for years. He knew the ways of the Wedge. At one of the weekend kite retreats hosted by the Maryland Kite Society, he and Lisa Hayes Manekin made a large hot pink model. On cue and several times, it "flew" — just as high as Lisa threw it.

In 1983, Ted put out a challenge for the 1984 AKA convention in Nashville, Tennessee. He would give an award to anyone who made a Wedge that would fly.

Charlie Sotich came from Chicago, Illinois and flew his Wedge with aplomb. He had figured out all the Wedge's secrets: which sides to cover and which to leave bare, how to craft it, bridle it and fly it.

The Wedge became Charlie's kite. He wrote it up for the newsletter of the Chicagoland Sky Liners kite club. He made other versions of it. And naturally, when he entered the International Indoor Kite Efficiency Challenge in 1987-88, he entered a Wedge.

The entry kite was inspired by and built exactly to fit a wedge-shaped box given to him by Elmer Wharton. The box originally packaged an "angled calculator pad" called The Wedge.

"As soon as I saw the box I knew why Elmer had brought it," Charlie said. "It would be a perfect carrying case for a Flying Wedge kite. The Wedge box would determine the size of my Wedge entry in the IIEKC.

"I found out in 1984 that if you try to bridle the Wedge kite the way that books showed, the kite was not stable and would not fly. By using the corners on the leading edge of the Wedge as bridle points, the kite would fly.

"Surprisingly, the kite flew with the vent up instead of down facing the ground. I think I know why none of the books with plans for the Wedge ever showed pictures of one flying."

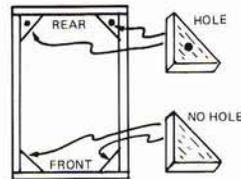
Now we have Charlie's latest model, a real *piece de resistance*, a collapsible Wedge. It can be carried and stored flat. It is larger (read: easier to make) than his IIEKC entry. It can also be made to be a conventional, noncollapsible Wedge. We are glad to have it in *Kite Lines* where others can learn how to make their own "notorious nonflier." —V.G.

First Things First

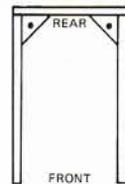
1. Make six triangular gussets from the sheet of balsa, each about 1" x 1". The dimensions are not critical, but the 90-degree angles are. The grain of the wood should be parallel to the hypotenuse.

2. Drill a 1/16-inch hole in the center of four of the gussets. Size the holes to fit the diameter of the bamboo sticks.

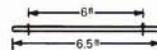
3. Make the basic bottom frame by gluing together two 18-inch dowels and two 12-inch dowels to form a rectangle. Reinforce the two rear corners by gluing a gusset (with hole) to each. Reinforce the two front corners by gluing a gusset (without hole) to each.



4. Make the basic top frame by gluing together two 18-inch dowels and one 12-inch dowel to form a rectangular U-shape. Reinforce the two rear corners by gluing a gusset (with hole) to each.



5. To keep the rear of the Wedge open, make two spacers by wrapping several turns of carpet thread around both



ends of both bamboo sticks at a distance of 1/4-inch in from each end. The thread will act as a stopper when the spacers are inserted into the holes in the balsa gussets.

6. Glue each piece of aluminum tubing to the front corners of the bottom frame, in front of the gussets, one on each side. With model airplane cement, glue a small square (1/2" or 3/4") of silk or nylon around the tubing and the dowel to secure the connection.

7. Bend and cut each piece of wire to



Valerie Covino

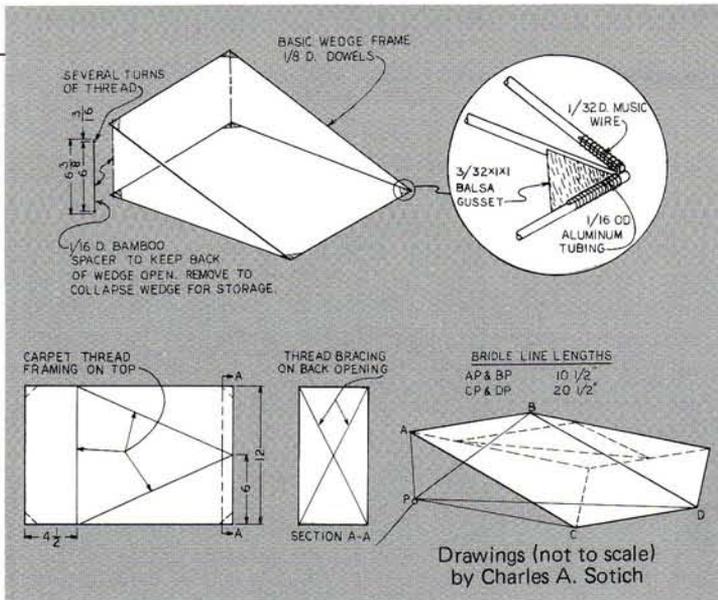
Sotich, Wedge and Wedge box at the IIEKC.

1959, contained about 11 kite plans. All were rather pedestrian—except one, the Flying Wedge. Mel and I had to make one. It was an absolute bomb. Nothing we did could make it fly.

A couple of times at our annual kite festival, proud entrants brought this novelty, a Flying Wedge. They had read about it in a book. They trusted it to fly. We would joke and commiserate with them.

Once, a Wedge *did* fly. An enterprising lad, after rebridling and running with his Wedge, got it to fly *upside down*. We gave him a special award for perseverance against the aerodynamic odds.

Later when I wrote an annotated kite

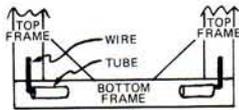


Charlie Sotich flies his Collapsible Flying Wedge for the crowd and the cameras at the 1989 Smithsonian Kite Festival, Washington, D.C.

Valerie Grogg

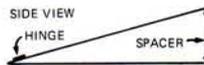
form a 90-degree "vee" with 1-inch legs. Remove any burrs from the ends of the wire so it will slide into the aluminum tubing (after glue has dried).

8. Lay the top frame over the bottom frame. Insert one leg of each "vee" into each piece of aluminum tubing from the outside edge of the frame. Carefully glue the exposed leg of the "vee" to the top frame only. (Put a piece of wax paper or plastic film between the top and bottom frames to prevent gluing them together.)



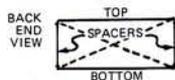
9. When this glue has set, glue additional small squares of silk or nylon around the wire and dowel to secure the joint. (The wire and the tubing will act as a hinge, keeping the corners aligned while permitting the top to be raised and held open for flying, or lowered for storage and transport.)

10. Raise the rear of the top frame and insert the bamboo spacers into the holes in the gussets. See the Wedge shape?



You're Halfway There

11. Install thread bracing in an X-pattern inside the rear opening. Make sure all the corners are square.



12. Install thread bracing in a triangular pattern inside the top frame.

13. To make the sails, cover the top and bottom as one unit, that is, with one sheet of plastic. The total area to be covered is 12" x 36", so allow a few extra inches as

a margin to be trimmed later. The 6" x 12" rectangle at the rear is left open.

14. Starting with the bottom frame, apply rubber cement to the outer edges of the four dowels. Lay the plastic across the frame starting at the trailing edge. Pull—but don't stretch—the plastic to remove as many wrinkles as possible.

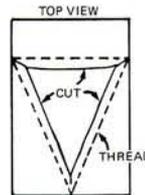
15. Apply rubber cement to the side dowels of the top frame, the triangular thread bracing of the top frame, and the trailing edge dowel. Continue to wrap the frame with plastic, pulling and smoothing as you go. (The side triangles are still open at this time, and the triangular section inside the top frame will be cut out later.)

16. Remove the excess plastic around the edges by trimming very carefully with a razor or sharp knife. Glue down any loose edges with rubber cement.

17. Cover each side triangle, one at a time, with the same rubber cement and plastic method used previously.

18. Remove the excess plastic around the edges very carefully. Glue down any loose edges with rubber cement.

19. Open up the triangular vent in the top frame by cutting with a razor or knife to allow a 1/2-inch flap to be folded around the bracing thread and glued (with rubber cement) to the interior surface.



20. Attach two identical-length two-leg bridles to the bottom frame, one to the front and rear corners on the left, and one to the front and rear corners on the right. Use a needle to pull the carpet thread through the balsa gussets. Bring the two bridles together and attach a small plastic

or metal ring with a larks-head knot. Attach your flying line to the ring.

21. Attach the crepe paper tail (with tape) to the bottom center of the rear rectangle.

22. Fly in gentle, steady winds.

Last But Not Least

To collapse the Flying Wedge for storage or transport, carefully remove the two spacers from the rear corner gussets.

If the spacers are difficult to insert or remove, snip a little off the ends which protrude through the holes. Then you won't have to bend the spacers so much.

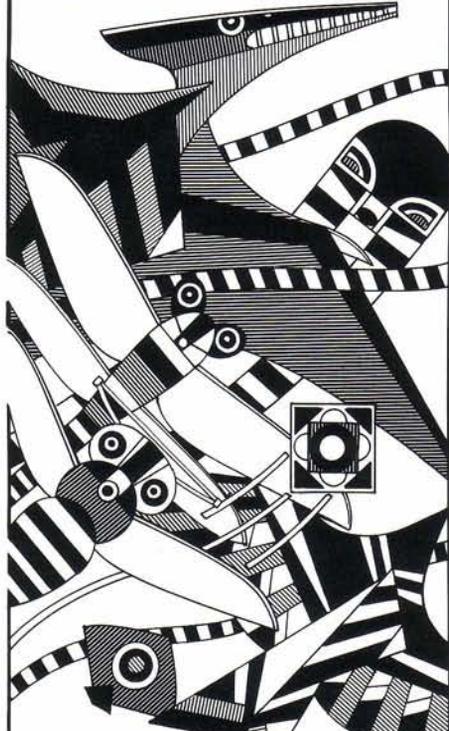
To make the same kite in a non-collapsible version, omit the instructions for the wire-in-the-tubing hinges and simply glue the frame together with appropriate gusset bracing at the corners and string bracing from corner to corner.

Variations of the Flying Wedge are many. For the framing, you can use rectangular sticks instead of dowels, and for the sail you can use paper, fabric or Tyvek instead of plastic. Heavier materials would necessitate a larger kite than this 12" x 18" model, and probably more or larger tails.

Additional variations can be created by covering/uncovering other areas of the sails, or by eliminating the triangular vent in the top, or by replacing the triangular vent with a square or a rectangle.

The kite can even be flown backwards—with the open rectangle in the front, in which case the leading wedge-edge becomes the trailing edge! Of course, some bridle changes would be necessary. A two-point bridle to what were the top rear corners gives good results. And don't forget to move the tail to the opposite end. ◇

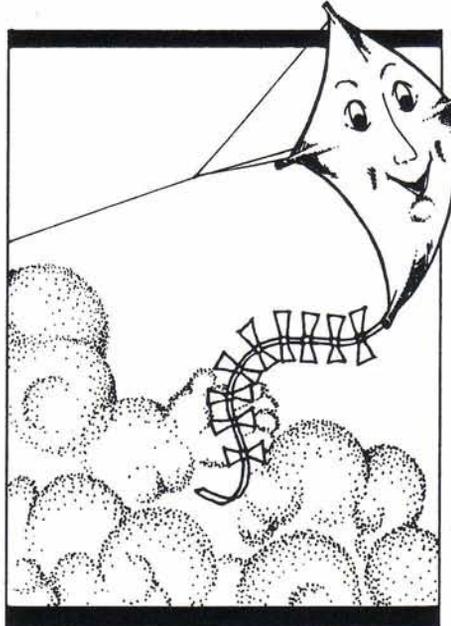
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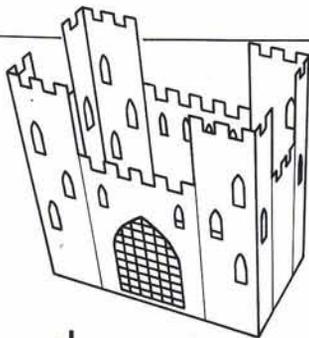
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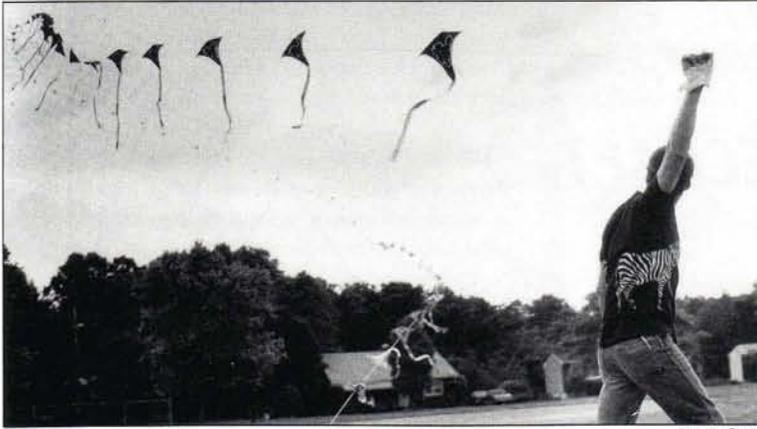
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Ohashi's Arch Trains: How to Engineer One

By John F. Van Gilder and Eiji Ohashi



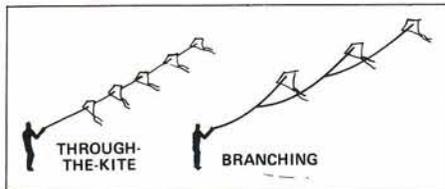
Len Conover plays with an Ohashi arch train of 70 kites in shifting winds. Walking the free end around past the tethered end makes interesting patterns. Looks like it might tangle, yes? No, it doesn't.

Editors: Anyone who has flown a long train of kites has noticed that when you walk them down the kites tend to rise *behind* you as well as ahead of you, forming an arch in the sky.

Purposely planning a train to form an arch was an idea whose time had come. Gary Schmitt of Indianapolis, Indiana flew an arch train of 100 sled kites in 1980, but he didn't disseminate the idea. It remained for others to do so.

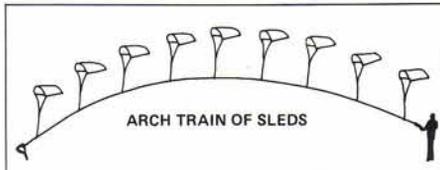
In 1985 and 1987, Jack Van Gilder observed arch trains as a trend in the making at the Washington State International Kite Festival at Long Beach. He wrote to *Kite Lines* in January 1988 proposing to write about it. He never finished the article. However, the original proposal was good enough to print. Here is what Van Gilder said:

In the past, all kite trains had one thing in common: a person held one end and the other end was up in the air. As all train observers can tell you, there are two general types:

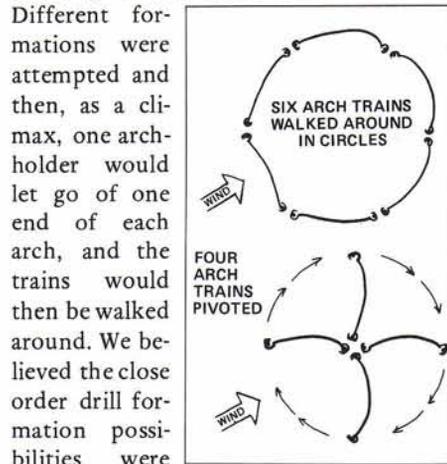


In the present, we are seeing many different kinds of kites in trains: boxes, parrot-shaped deltas, delta-Conynes, Eddys (the most common) and others.

On the horizon, springing up here and there, is something new: the arch train. The first one I ever saw was at Long Beach in 1985 (flier unknown), like this:



Then in 1987, also at Long Beach, the Washington Kitefliers Association made a club project of parading arches in formation on the beach, using six 50-kite trains, made up of sled kites, sort of like this:

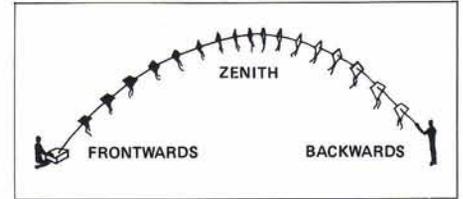


Different formations were attempted and then, as a climax, one arch-holder would let go of one end of each arch, and the trains would then be walked around. We believed the close order drill formation possibilities were endless. The only trouble was that we were using sleds that branched off the main line, producing tangles and making uneven profiles in the sky (because the sleds were very active—boy, they were *all over!*)

Now Dave Checkley* has brought pictures back from Japan of a four-arch group of trains, using Eddys, bridled through-the-kite, that will fly *backwards!* When the arch-holder lets go of the end,

*Dave Checkley died September 15, 1988. See *Kite Lines* Winter 1988-89, page 69. Jack Van Gilder died seven months later, April 15, 1989. See page 68 of this issue.

sending the train skyward, the kites turn around and fly frontwards again, like this:



This is accomplished by using kites with a reversible dihedral angle. The limber bamboo spines are taped along their entire lengths to the kite skins.

I predict that we will be seeing more arch trains of the Eddy type, which are said to be more stable and clean in profile than sleds. I think this will be the next team activity, akin to team stunt flying—especially if the arch trains are color-coordinated!

Editors: While we were waiting for Jack's article to arrive, we read in the July 1988 "Cervi Volanti" newsletter of the Associazione Italiana Aquilonisti a report from the *Kuwait Times* stating that Eiji Ohashi, Japan's premier train maker, had flown a 100-meter (about 328-foot) arch train on March 6, 1988, between two towers at a national festival in Kuwait.

Wondering if there were a connection between Van Gilder and Ohashi, we wrote to the latter and Ohashi replied with a lovely arch train of 70 kites and a letter:

Arches are integral to Islamic culture. In Kuwait I flew a 600-meter (about 1,968-foot) arch train over the Kuwait Towers. In Qatar I flew a small arch train, and the minister of culture of Qatar came through and under it by car.

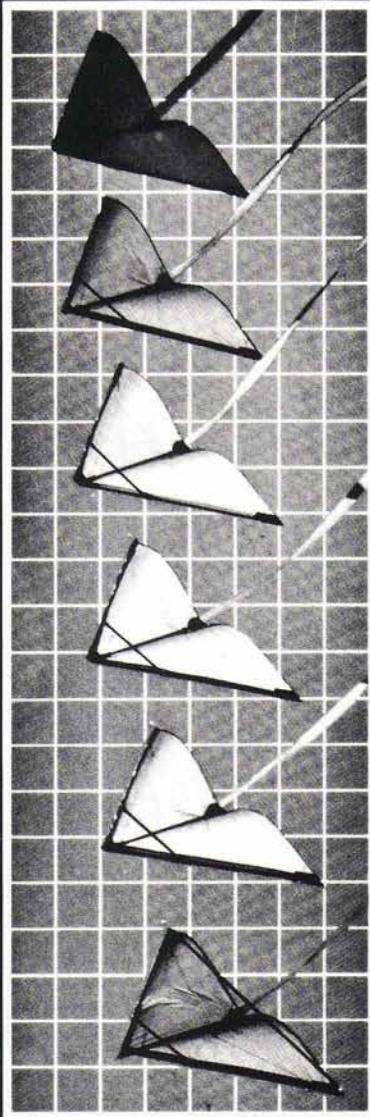
Last August I was invited to Berlin, West Germany. There we flew an arch train on the lake from two boats. Changing the speed of the boats, we could control the relative speed of the wind. We had very good wind for the kites every day!

Some special qualities of my arch trains are as follows:

1. If cut by another kite line, the arch becomes two kite trains and the kites do not fly away.

2. The kites are flat, not bowed, so when one puts them into a box, one can push down on them firmly and keep more

Continued on page 27. . .



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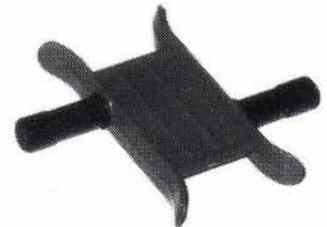
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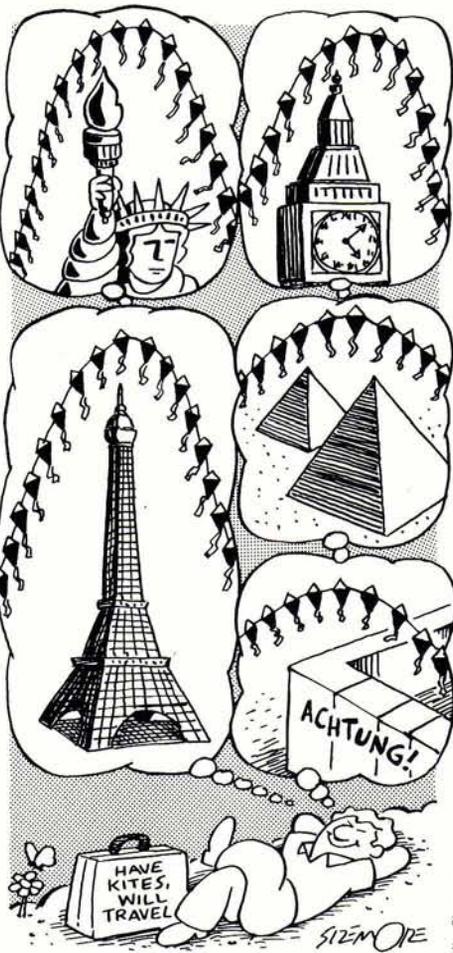
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kites than normal in the same size box.

3. As a result of their piano wire cross-spars, the kites fly at a higher angle and with less pull than kites using other spars, such as bamboo. This would be a good kite to use to break the world train record.

4. The arch train can fly not only to leeward but to all directions.

An arch means "welcome," "friendly." I hope many kitefliers will fly arch trains all over the world for peace. My dream is to fly my arch train over noted places in the world. (I am looking for sponsors.)



Editors: For those who cannot build their own arch trains, Eiji Ohashi makes and sells them, complete and ready to fly. An arch of 70 kites (7 colors, 10 kites each) on 140 meters (about 459 feet) of line is priced at US\$200 (plus \$20 for air mail shipping to the USA or Europe). Order directly from: Eiji Ohashi, 1-81-1 Nakamura-kita, Nerima-ku, Tokyo 176, JAPAN.

Note also that in the near future we expect to have copies of Ohashi's latest book *Arch Kites and Creative Kite Trains* available through the Kite Lines Bookstore. ♦

HOW TO MAKE ARCH TRAIN KITES

Materials

- PLASTIC: 34cm wide diamond shape with a hole in the center. Dimensions: 34cm total width, 12cm top section, 22cm bottom section.
- 2 STICKS: LENGTH 34cm, DIAMETER 1.8mm. Material: BAMBOO, WOOD OR FIBER-GLASS.
- PIANO WIRE: LENGTH 34cm, DIAMETER 0.8mm. It should be CURVED OR BENT with a DEPTH of 3cm.
- PLASTIC TAIL: WIDTH 3cm, LENGTH 160cm.

Construction

- BACK SIDE:** Shows the kite with sticks taped along the entire length.
- FRONT SIDE:** Shows the kite with piano wire taped along the entire length and a tail attached.
- DETAIL (FRONT):** Shows a close-up of the hole in the kite with a plastic connector (Dennison Swiftachment) piercing the line. Tape reinforces the hole.

Distance between kites is 2 meters. Flying line is 1.5 to 2mm diameter.

HOW TO FLY AND ENJOY ARCH TRAINS

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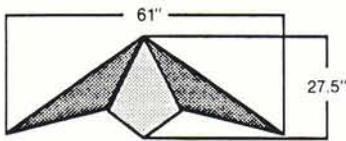
RAINBOW

WELCOMING ARCH

HOW TO BREAK THE WORLD TRAIN RECORD

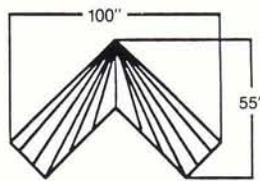
1. Fly as many arch trains as necessary. Wait for best wind.
2. Release end of each train one after another. LET GO

Got a new idea for a kite or construction method? Send it to us and we will publish it in *Kite Lines* to help document the design and establish originality. Write to Curtis Marshall, Innovations Editor, *Kite Lines*, P.O. Box 466, Randallstown, MD 21133.



SKY DART

The ACTION KITE SKY DART receives rave reviews wherever it goes. This kite is a real winner! Its high-speed and extremely sharp turning ability should make this kite your choice for competition.

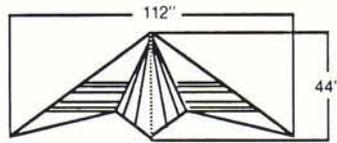


PHOENIX 20

Why mess with perfection? This mainstay of our company has been in production for almost five years now and still going strong. This award winning kite is a real performer in light to moderate winds. Its large size and bold colors in the sky are a sight to behold.

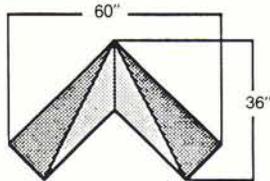
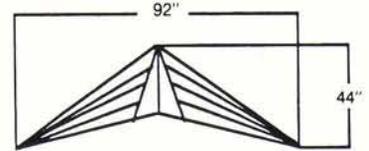
SUPER SKY DART

This redesign of our standard SKY DART is available in two stunning patterns. Outstanding mobility and fast, sharp turns make this kite an impressive member of the Action Kites family.



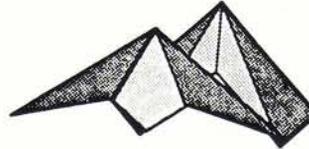
STAR DART

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ACTION 8.2

The ACTION 8.2 — imitated but never duplicated. This high-performance, little brother of the PHOENIX 20 is popular for its high speed, tight turns, and ease of flight. Easy assembly and small storage size make the 8.2 an ideal traveling companion.



ACTION COMBO

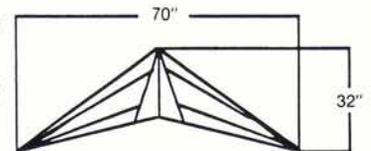
The ACTION COMBO presents you with the competitive edge. This kite is an exciting new concept in stunt kites, combining dissimilar, but complimentary wings. The ACTION COMBO will give you a very unique style of flight.



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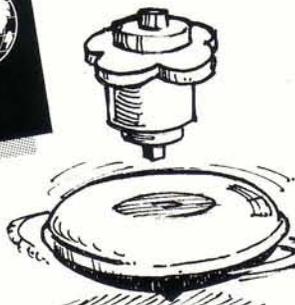
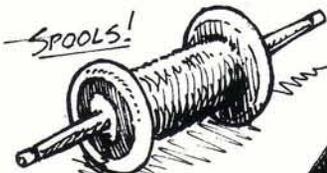
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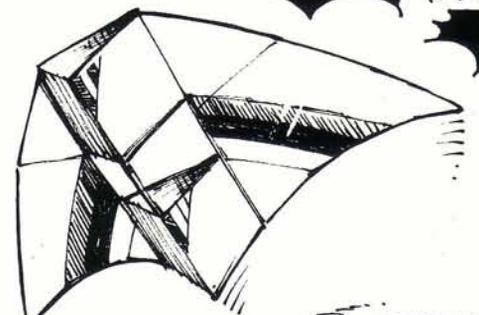
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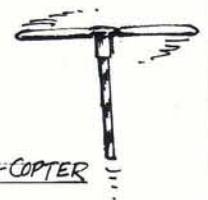
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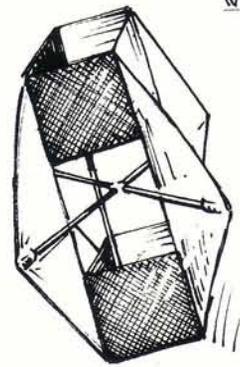
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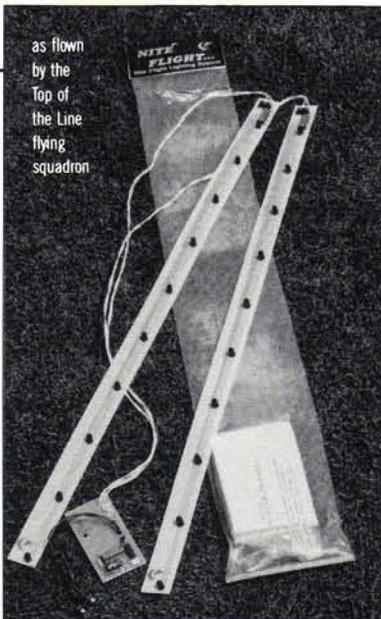
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"If a kite came down over a paddy, 20 or 30 people rushed into the water to catch it and prevent its getting wet."

Return to Bali

Article & Photographs by Simon Freidin

On an island of gently swaying tropical palms, fertile rice paddies and a continual flow of water from the mountains to the sea, lies one of the most unusual kite cultures in the world. Described by Drs. Rai Girigunadhi, the president of the organizing committee for the kite festival, and himself an avid kite builder and flier, kiteflying (literally “kite play” in the local language) is a community activity enjoyed by the Balinese people throughout all the stages of their lives.

As adults, the Balinese compete with huge creations of bamboo and cloth, described by Shakib Gunn in “The Kites of Bali” (*Kite Lines*, Spring 1985). But as children and adolescents, they actively pursue kite play, and the sky above Bali is constantly alive with small kites of every description.

Children work with the simplest of materials: leaves, feathers and (in the towns) paper and cloth. Young boys create delightful bird kites with three-dimensional bodies of cloth laid over complex bamboo frames, with wings that fold out and are cleverly tensioned by an arrangement of bamboo, rings and string. At the seashore, small paper sleds dart and weave on gentle breezes.

The large kites that compete in the Balinese kite flying championships are prepared by teams from local villages. Using whole bamboo, cloth and paint, they create flying images from mythology and the Hindu religion.

To gain a true understanding of Balinese kites requires a deeper knowledge of Hinduism than I could glean on this, my second trip to Bali. This is a culture where life is dedicated to reincarnation and is culminated by the purification



The great bebean kites of Bali: opposite, flying above the rice paddies; above, resting on one side as a backdrop at a banjar (village center).

achieved in complex and ceremonious cremations.

The images of Bali are full of the intertwinings of life and death, the struggles of gods and humans, and the kites themselves are offered as prayers on the wind to bring good fortune. Before flying kites, the Balinese make offerings to the god of kites, *Rareangon* (the shepherd).

Kitemaking in Bali is an oral tradition, handed down from father to son. “Professional” kite designers (*undaqi*) are the village architects, responsible for the design of buildings, cremation towers and many other aspects of Balinese design. Endowed by the caste system, the *undaqi* gain experience by working with their fathers and refining their skills with time.

While kite plans are not recorded in writing, some written kite myths have survived the erosion of time, captured in *lontan*, books written on dried palm leaves, joined together by a string through their centers. The *lontan* containing the myths date from the eighth century. In these myths, kites play a part in the interaction of god and man.

The Balinese Kite Association recently

held a technical seminar in order to begin the process of recording the Balinese history of kites, which they plan to translate and make available later. In the meantime, I was lucky enough to have two of the myths recited to me by Girigunadhi. I include a synopsis (*see box*) though I do not do justice to the romance, terror, beauty and subtlety that the stories evoke when told by the Balinese.

The traditional kites—the *bebean* (the fish-shaped kite with split tail and side fins), the *pecukan* (the leaf kite which has the least stability and which requires the most skill to fly) and the *janggan*

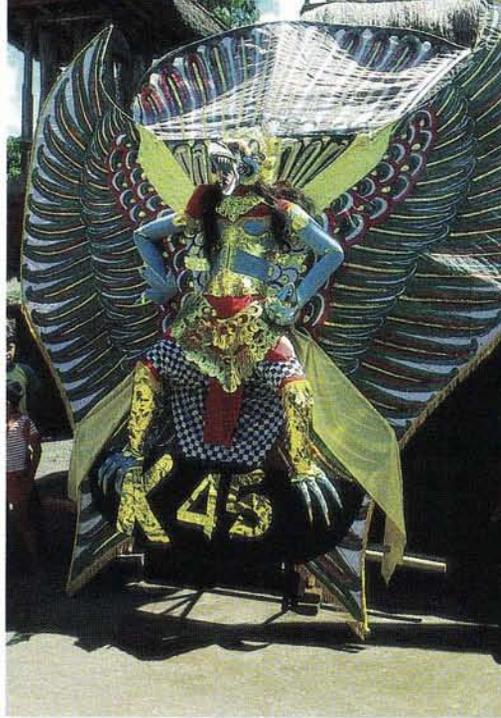
(long-tailed kite)—are each fascinating for their unique shape, team construction and size, but I thought it would be most interesting to focus this article on the *kreasi baru*, the “new creation” kites.

The traditional kites have a simplicity of line, geometry and color which is easy for Westerners to comprehend. In contrast, the hand painted *kreasi baru* kites are complex in structure and decoration and they represent unfamiliar myths. I had remembered them from my previous visit as garish and unusual. A more detailed examination brought many fascinating features to light. Like so many aspects of Balinese art, these kites are constructed in meticulous detail.

The construction of the *kreasi baru* kites is at the discretion of the village *undaqi*, and so they vary dramatically in what they depict and how they are built. They range from representations of Siva (or Shiva, the creator/destroyer god) and Siva’s carrier (the mythical Garuda bird) through animals and insects, to kites addressing modern social issues. One of these was a kite extolling the wisdom of

family planning. (Indonesia has had an extensive birth control program since the mid-1970s, and its message has pervaded all forms of popular culture, from dance to shadow puppetry to kitemaking.) The festival's sponsors advertise with *kreasi baru* kites, one depicting a flying hotel, another giant three-dimensional flying cans of beer. One of the unique features of the *kreasi baru* kites is the decorative and brightly painted three-dimensional gods, humans and animals which project from their surfaces.

All the kites utilize bamboo extensively and are covered in cotton or, more frequently these days, a clothing grade nylon cloth (not ripstop). They are



KITE MYTHS OF BALI

THE SHEPHERD BOY

While grazing his bull in the fields, a shepherd admires the girls passing and begins sketching a beautiful fantasy girl. Just then the king passes by, notices the drawing and demands that the shepherd bring her to him. Of course the boy can do no such thing, for she is a product of his imagination. He flees into the forest, for he knows that failing to meet the king's demand will be his ruin.

In the forest, the boy is befriended by a giant who tells the shepherd that he will help him. The giant pulls a single feather from a long-necked goose, tosses the feather into the air and instructs the boy to follow it wherever it goes. The boy follows the feather as the wind takes it until he comes to the top of the mountains. Many angels from heaven are attracted to the feather, and one of them looks just like the girl the boy sketched in the field.

The boy calls down this angel and explains his dilemma. At this point, the god Siva arrives and tells the shepherd that he is an ancestor of Vishnu, and rightfully entitled to rule. Siva tells the boy that the angel is not to marry the king, but rather the shepherd. Siva then destroys the wicked king.

The flying goose feather is the first kite in Bali.

THE STOLEN QUEEN

A recently married king and his queen are asleep in their palace. A wicked giant comes from the forest. He wants a beautiful wife, so he puts the palace guards to sleep and steals the queen. The next morning the guards awake and discover she is missing. The king and all his guards set out to find her. As they come to the rice paddies, the king notices the many diamond-shaped kites flying there. (These are called *Jawan*, and are a Javanese style kite.)

One kite is flying much higher than the rest. The king borrows this champion kite and draws upon it the symbol of his kingdom. (The symbol is a single letter. The Javanese word for letter is *layang*, which is the Balinese word for kite.)

The king then flies the kite as high as he can so that the queen may see it and find her way back to him. When the kite is very high up, the string breaks. The king sends his guards to find it. The kite travels over the forest and lands near the giant's cave. When the queen awakes, she finds the kite and recognizes the symbol of the kingdom on it. She then flies the kite from the mouth of the cave, and the guards come to her rescue. After a terrific battle, they destroy the giant.

The queen and her king are happily reunited.

always brightly painted, and complex detail is evident in the painting. Large projecting forms, such as human bodies, are woven in the bamboo with material stretched and glued over it. Structural joints are lashed and glued with adhesives specially developed for the tropical humidity. Sections of the kites (such as faces and hands) which are too complex to build over bamboo frames, are carved, painted and attached to the figures. Originally of wood, the carvings now are polystyrene foam to decrease the weight of the kites. I examine one hand-painted monkey mask which has pig's hair glued to it for realistic eyelashes and beard.

The three-dimensional characters are formed from woven bamboo, selected from the many varieties which abound on the island. The most suitable bamboo is not found near the coast (where constant sea breezes give rise to the best kiteflying) but in the foothills. Its superiority lies in its strength for a given diameter.

The best bamboo has grown for about three-and-a-half years and has a two-inch diameter. It is dried for a minimum of three weeks (though the longer the better) and split into quarter-inch strips. The outer surface is then trimmed to about one-sixteenth of an inch. Because of its natural flexibility, the outer surface of the bamboo is used for all the sculptural surfaces. A square weave is used primarily, with additional strength from diagonally tied string or bamboo strips. The Balinese do not smoke the bamboo to extend the life of the structures, so their kites can survive only a few years.

Modern coverings are cloth, but we are treated to a demonstration of the traditional technique of stripping palm trunk for use as a kite covering. The vil-

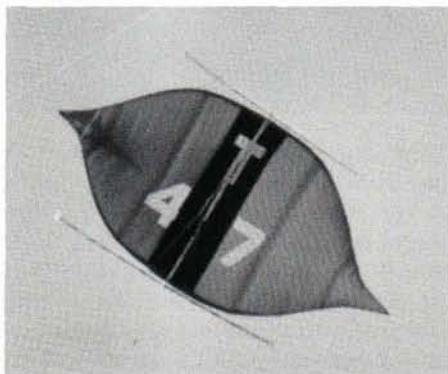


to fly it, but also does an expert job. As at all kite events in Asia, the sun shines brightly and it can be very humid. The organizers provide an official awning as shade from the sun and a plentiful supply of cold sterilized water is available from one of the sponsors.

The progressive decline in the number of local entries over the past 10 years is of concern to the guest fliers. The reasons given vary from year to year, ranging from the notion that the same villages win consistently to the enormous expense (considering Bali's cost of living) in the construction of a giant Balinese kite.

This year the festival is held several months later than usual, and some kite-

Top, left to right, *kreasi baru* (new creation kites): garuda bird; Siva rising from the lilies (1988 grand prize winner); garuda bird; and cremation tower kite. Below left and right, *pecukan kites*.



layers work in teams of about 20 in the shady open air meeting hall known as a *banjar*. (The kitemakers are collectively called *sekehe*, literally "kite lovers.") Specialists in various techniques of construction are supervised by the *undaqi*.

The palm trunk is shaved to a smooth surface and split into thin layers which are translucent and have a visible cellular structure. Allowed to dry, the material forms into a thick plastic-like layer which is lightweight and readily used as kite covering.

We also watch as bamboo is split, using a stone as a natural stop. Two men strain to form the split and shaved bamboo into line for lashings, using their full opposed weights to tighten the knots.

The frames of the *kreasi baru* kites vary enormously in their design and construction. Most use a central bamboo pole, and all the kites I examine are symmet-

rical. The decorative figurines are attached to the central pole. Bridling is usually two-legged, occasionally three-legged. All the materials used in construction of the kites are donated by the local community.

The government supports the kite festival to preserve Balinese culture, motivate local kitemakers, promote home industry and increase tourism. Though the festival is an international event, it is unique in its approach. The festival is a competition among the local villages for the most outstanding kite, and the international participants are not the central attraction. Still, we are given several opportunities to fly our kites and they create an instant crowd whenever we do fly.

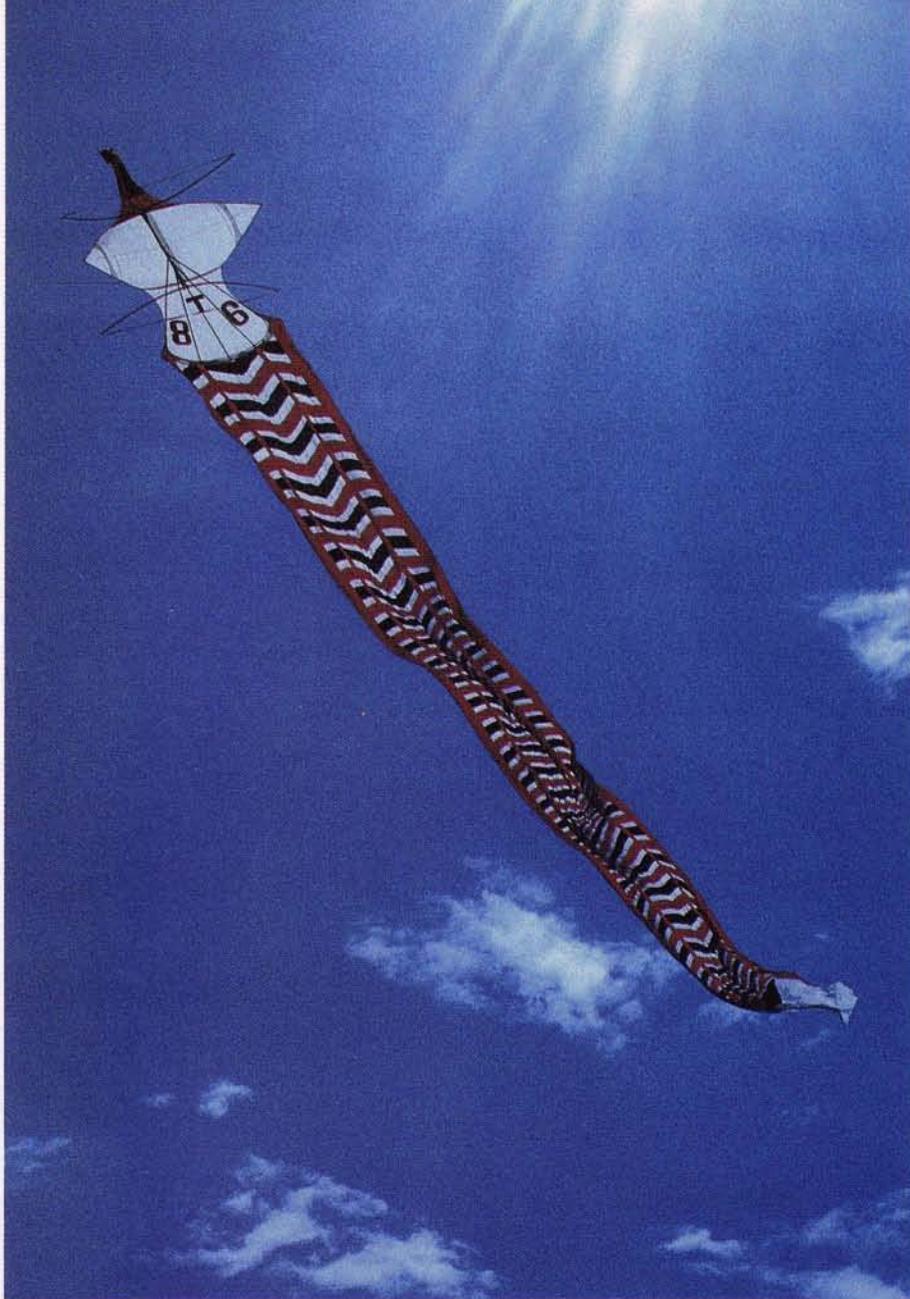
Bali is one of the friendliest places in the world to fly kites, and no sooner do I launch a kite than I can hand it to someone in the crowd who is not only willing

makers do not believe that there will be sufficient wind to lift their creations, since the winds are seasonal and the large kites require strong winds.

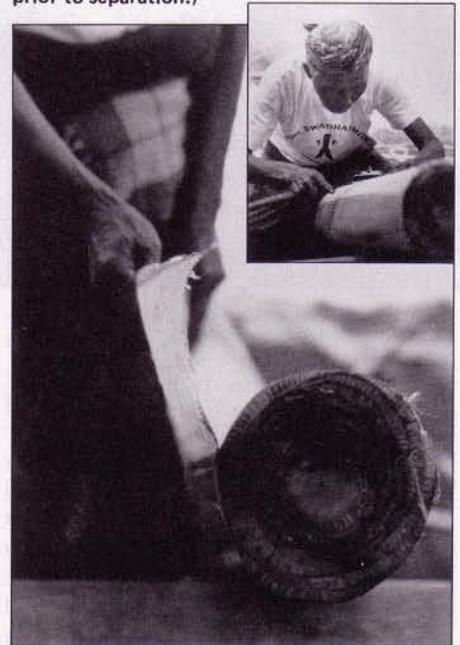
The Balinese calendar is also dominated by many religious festivals. Some of the Balinese are quite involved in a festival of blessing the whole island and—though it is still some months away—they are too busy making elaborate arrangements to dedicate the villages' efforts towards kite construction.

Shakib Gunn expresses the hope that some of the (relatively) rich Western kite groups will also provide support to the Balinese in an effort to preserve this unique kiting event.

In an effort to encourage the Balinese to enter future competitions, Shakib and Michael Seet arrange for the Singapore Kite Association to donate a magnificent winner's trophy and cash prizes



Directly left, *janggan* in flight. Lower left, demonstration of traditional construction techniques in a *banjar* in Denpasar, Bali. Below, separating the layers of palm trunk used for kite coverings. (Inset, trimming the trunk prior to separation.)



(Singapore \$100) for each category of kite. It will be another two years before we see if this has the desired effect, but in the meantime I encourage any kite-flier who can to visit this event. It is visually spectacular and unlike any other kite festival in the world. The organizers offer a discount package for airfare and hotels—and even arrange transportation to the flying field—for international kite-fliers.

The festival itself is centered on the heats for judging the best kite in each category. The morning starts with a procession of kites and teams followed by their *gamelan* orchestras across the flying field. In the judge's tower, an official chanter adds rhythmic percussion and encouragement to the fliers—and the wind.

Each heat consists of 10 or 11 kites which are judged on their design, construction and flight. This year, because of the later timing of the event, the surrounding paddy fields are green, fertile and full of water. When the winds are light, the flying teams dash through the water in an effort to keep their kites aloft. If a kite comes down over a paddy, 20 or 30 people rush into the water to catch it and prevent its getting wet.

The *bebean* kites pull around 150-200

pounds and are held by three or four men. The launching process is particularly interesting. The kite is held upright at one end of the field and 10 or so team members space themselves along 200 feet of flying line. The line is plastic rope or occasionally a quarter-inch monofilament. Each of the launchers has an eight-inch stick which he wraps into the line. As the kite ascends on launch, each member waits until the line is tensioned, then he releases his stick which flips out of the line. The next flier in the chain then takes the strain. The kites ripple and jerk on this quick launch, and there is little room to maneuver if the kite develops too much instability. Occasionally the launch ends in a crash. Once flying, however, the kites have a reasonable range of stability, and they fly evenly.

The exception, and therefore the most difficult and demanding to fly, is the *pecukan*, and its fliers are credited as the most skilled. Often the *pecukan* will yaw just a little, then oscillate wildly and tumble from the sky. Crash landings are much appreciated by the crowd. They are surprised by the launch of a Western stunt kite which suddenly turns and dips under control of the flier. Laughter and admiration come from the spectators when they realize that the kite will not crash.

Of course, it is the children who make the event special, and hundreds of small boys invade the flying field for a chance to fly any of the kites. Shakib organizes a group of them to fly his Peter Lynn Tri-D box in the lightest winds, and many of them are required to shift the kite's position before running its line downwind to launch it for a short flight. With the memory of their enjoyment in my mind, it will be easy for me to return to Bali for the next festival. ◇

A child in Bali plays with a foreign bird kite.

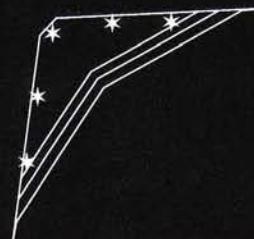
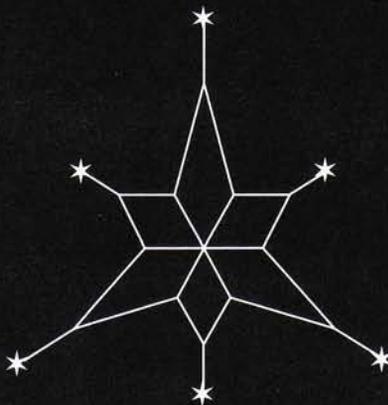


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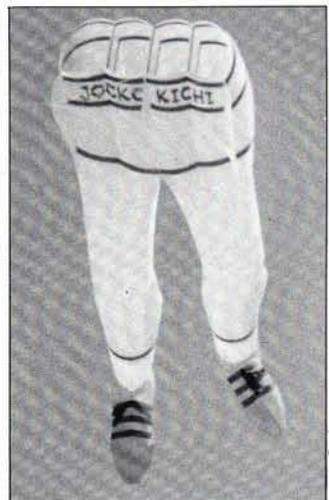
News, Rumors & Miscellany

As we go to press, Tal Streeter, well-known kite artist and author, is in Westport, Washington attempting to fly a new Longest Kite Tail. A big red Doug Hagaman parafoil will haul up four to five miles of foot-wide ¼-ounce rip-stop, hemmed on both sides. Has to be the most sensational Flying Red Line ever made by Tal. Full report to come.

Speaking of Tal, his collection of 60-some Japanese kites plus photos are on exhibit at the Museum Gallery of the White Plains Library, White Plains, New York. Called "The Art of the Japanese Kite," the show runs from April 23 to August 31, 1989.

September 22 to 24 of this year will see the first serious new kite altitude record effort since the Brits tried so hard back in 1980 (remember KARA?) This time the would-be hero is Guido Accascina who will gather his team in Nettuno (Rome), Italy. A festival's been built around the big try. For information, contact Guido Accascina, Via Case Nuove 3, 02034 Monto Poli (RI), ITALY, telephone: 07-65-29559.

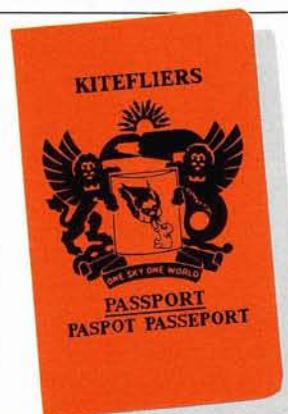
Well-liked, well-known kiteflier Leland Toy is slowly recovering from a serious illness. Friends should send cards and messages to Lee at 8350 E. Indianola Avenue, Scottsdale, Arizona 85251, or call him at 602-945-7961.



Do you collect kite puns? Don't we all? Latest hoot: Jocko Kichi, a 32-foot Legs kite made by Martin Lester of England for Corey Jensen of California. Seen at the East Coast Stunt Kite Competition, Wildwood, New Jersey, May 28, 1989.

Kite books are a-comin': another by Wolfgang Schimmelpfennig, titled *Lenkdrachen bauen und fliegen (Stunt Kite Making and Flying)* is due out from its German publisher in August. *Fly Kites*, a kit/book by the admired David Pelham, has been delayed, will be published in 1990. And we hear that Maxwell Eden's book, *Kite-works*, will at last be available from Sterling in the fall.

Have you ever heard of flying kites in a parade?" asks Ellen Rubenstein Chelms of Charlotte, North Carolina. "On March 18, members of C.A.K.E. (Carolina Area Kite Enthusiasts) appeared in Charlotte's St. Patrick's Day Parade, wearing coordinated purple sweatshirts and hats, each decorated with the C.A.K.E. logo, the hats also sporting shiny plastic pinwheels. Two of us carried the club banner, one pulled a little wagon with a boom box in it that played "Let's Go Fly A Kite" and the rest flew a wide variety of kites, many handmade by yours truly, on short strings attached to four-foot poles while they roller-skated or rode bicycles! I didn't expect much wind on a city street with tall buildings on every side, but the wind came right behind us, so that the kites flew in front of us, and those of us on roller skates were neatly pulled along by even the smallest kites!"



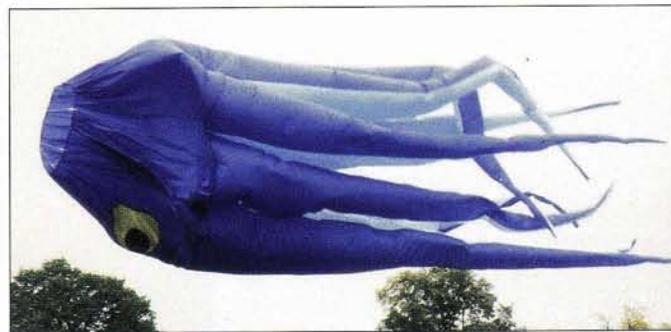
Do you collect kite mementos? Don't we all? Latest treasure: The Kitefliers Passport, an elegant 24-page rival to official government documents, obtainable only in Singapore, signed and stamped by the Singapore Kite Association. Room for your photograph and stamps ("chops") for every kite festival you attend around the world. A must-read: the wonderful Notes in the back. Emblem on front says One Sky One World.

Walt Whippo writes: "When my wife Wilma ran for City Commissioner, I flew this 'Whippo' kite train (right) all over town (Cocoa Beach, Florida) for weeks preceding the election. It flew lots of attention and made the six o'clock TV news on election day. "The kites are 26" x 32", covered with Silkspan and have a

single bridle point. Tails are six-foot-long plastic surveyor's ribbon and spacing is five feet. Performance is monotonously reliable. "She won (the election). I like to think (the kites) helped."

Getting jaded about windsocks are we? Have a look at Enrico Zamponelli's Octopus Windbag, a 7.4-meter (about 24-foot) long monster, weight 2000 grams (about four pounds). The photo was taken at the Aqua-Zoo in

Düsseldorf, West Germany. Enrico and friends often fly this and other apparitions at public events and are working on "daylight fireworks," that is, windbags suspended in the air and lit "either by fuses or wireless."



China's tragic events just before we went to press have shaken many members of the kite community. Businesses with China connections especially have reacted with shock and uncertainty, but some are hopeful that positive relationships will survive.

As for the China Kites Tour sponsored by *Kite Lines* (about which readers will learn more in our next issue), we are hoping to resume it in 1990 as a meaningful, peaceful exchange between peoples. We are therefore keeping open the option of a tour for next year and will re-evaluate the situation as we learn more about it.

If you would like to be on our update mailing list, contact Roman Associates (see particulars in the announcement on page 12). We will be doing everything we can to reaffirm the ongoing friendship and enthusiasm that are part of our lives as kitefliers.

You gotta believe the kite business is growing when a seminar on kite retailing hosts 17 participants from all over the U.S. For three days in April, attendees were saturated by The Kite Loft staff in Ocean City, Maryland with everything from broad business philosophy to the comparative

merits of different cash registers. A steady flow of talk and demonstration showed everything Bill Ochse does to make a successful business grow. The participants included some established retailers who came to polish finer points and discuss problems. Many pronounced the event well worth the \$950 plus accommodations.

They got hysterical over the pig," said Robbi Sugarman of the big sky show he put on with his pals in the New York Sky Circus, a stunt kite team. And the team was hysterical, too, when it won the \$25,000 prize! The pig windsock, a giant Spinsock, two Flow Forms and three Spin-Offs were decorated with "92.3 K-ROCK," a local radio station's logo in competition for most imaginative and visible display of the station's call letters. The team flew its collection at Jones Beach, Shea Stadium and over the Stamford, Connecticut marathon, all the while being video-taped by Frank Abadie. The submitted video beat out 200 other contenders, including an eight-foot champagne bottle in a boat and a 13-story logo hanging from a high-rise. Big town, big show, big laughs, big bucks.

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We've noticed some trends in kite book publishing to take titles out of print and to hike up prices suddenly. We suggest that if you are a serious collector of kite literature, you will be wise not to delay. Snap up the books you want NOW!

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Edo Dako (Edo Kites) by Masaaki Modegi, in Japanese and English. An elegant, full-color pictorial tribute to Shingo Modegi (Masaaki's father) and master kitemaker Teizo Hashimoto. Includes brief history of Japanese kites and five types of Edo. Beautiful printing, heavy paper. A kite book to treasure. Hardcover, 78 pp., \$39.95



Bessatsu Bijutsu Techo (Fine Arts Journal), in Japanese. The Winter 1982 issue of a quarterly art magazine. This issue is devoted entirely to kites. Contains more than

300 color photos, plus articles by well-known Japanese kite authors. Softcover (in protective plastic sleeve), 216 pp., \$16.95



Nihon-no Tako (Kites of Japan) by Kazuo Niisaka (deceased), in Japanese. First Edition (1978). One of the most exquisite examples of kite literature available. Over 10x14

inches with 315 pages (253 in color) and special sheet of kite paper. Rare find from publisher's limited supply. A magnificent, double-boxed hardcover, \$249 (no airmail)

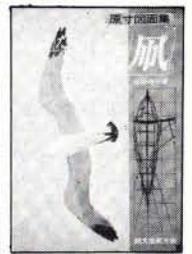
Sosaku Tsure Dako (Kite Train Making) by Eiji Ohashi, in Japanese. Clear plans and detailed drawings include the Expansible Box. Innovative designs and construction techniques. Contains full-size patterns for Ohashi's Star kite and National Flag kite. Color photos. Softcover, 56 pp., \$16.95



Ana Aki Dako, Paneru Dako (Vented Cellular Kites, Panel Kites) by Eiji Ohashi, in Japanese. Creative configurations for the used-to-be basic box (clock, sunflower, dice, flag, etc.). Many single- and multi-cell variations. Color photos. Softcover, 60 pp., \$14.95



Tori Dako (Bird Kites) by Shuhei Goto, in Japanese. Detailed plans include full-size seagull pattern. Softcover, 72 pp., \$14.95. **Habatake Tori Dako (Flapping Bird Kites)** by



Shuhei Goto, in Japanese. Full-size patterns for three birds, plus 20-page booklet. Boxed softcover, \$14.95



Hikoki Dako (Airplane Kites) by Koji Hasebe, in Japanese. Easy plans for sophisticated cellular kites with wings and fins. Plans include modern jets, the Concorde and a UFO. Some color photos. Softcover, 54 pp., \$14.95



Majiku Dako (Magic Kites) by Takaji Kuroda, in Japanese. Detailed plans for convertible boxes and "cubic" kites that fold, flip and fly upside down. Sleds and traditional Japanese kites, too. Color photos. Softcover, 77 pp., \$14.95



Hansen Dako (Ship Kites) by Morio Yajima, in Japanese. Includes excellent illustrations, numerous details, plus color photos of ships in flight, both single- and multi-masted. Fascinating and challenging. Softcover, 66 pp., \$14.95

From AUSTRALIA . . .

Make Mine Fly by Helen Bushell. New 1988 edition. Contains far-ranging collection of tips and plans (since 1977) for beginners or experts. Plans include the patented Trefoil delta (folded keel). Softcover, 90 pp., \$8.95



Kites for Krowds of Kids by Ed Baxter and Richard Davey. Contains clear plans for 11 kites plus accessories. Good advice for workshops, despite outdated references and regional (Australian) resources and materials. Nice drawings, no photos. Softcover, 24 pp., \$3.95



Kite-Folds by Beth Matthews. Contains plans for 12 small kites, each made from single sheet of paper, plus the "Skyvelope." Clever designs, good construction tips, but text is not easy to follow. Softcover, 24 pp., \$6.95



From GERMANY . . .



Drachen aus aller Welt (Kites from Everywhere) by Werner Backes, in German. Detailed illustrations and clear photographs of a 40-kite international sampler. Plans include Cloud Seeker, Rhombus, parafoil, multi-cell boxes, trains and aerial photography. Softcover, 128 pp., \$12.95



Drachen einfach und schnell gebaut (Quick and Easy Kitemaking) by Werner Backes, in German. An accurate, colorful introductory volume with plans for seven basic designs and dozens of variations, plus accessories. Softcover, 64 pp., \$8.95



Drachenbau mit Erfolg (Kitemaking with Success) by Axel G. Voss, in German. Attractive little book for beginner or expert. Plans for 10 kites include "Der Albatros" (cover). Excellent illustrations, color photos, tips and techniques. Softcover, 64 pp., \$7.95

The Kite Lines Bookstore . . . Continued

From the UNITED STATES . . .

The Penguin Book of Kites by David Pelham. First published in 1976, and still highly recommended for all kitefliers. Includes plans for more than 100 kites plus lots of reference information (aerodynamics and history). Color. Softcover, 228 pp., \$10.95



The Stunt Kite Book by Alison Fujino and Benjamin Ruhe. Covers background well, treats nuts-and-bolts sketchily. A clearly arranged book with plentiful black-and-white photos and drawings. Contains a useful chart of 80 manufactured stunt kites grouped by skill level. Softcover, 110 pp., \$8.95



Stunt Kites! by David Gomberg. The first book on the subject. Thorough coverage of the basics. Tips from 18 well-known pilots; lots of safety pointers and specific techniques. "Homemade" publishing with computer drawings, no photographs. Softcover, 88 pp., \$8.95



Kites for Everyone by Margaret Greger. Good kite plans plus variations, accessories and knowledgeable tips. Recommended for beginners, experts or the classroom. Clear, understandable. Softcover, 136 pp., \$10.95



Kites: An Historical Survey by Clive Hart. Revised, second edition (1982). Invaluable reference work with many illustrations and photos. Fascinating research and reading. Extensive bibliography. No construction plans. Softcover, 210 pp., \$13.95 Hardcover, 210 pp., \$29.95



The Art of the Japanese Kite by Tal Streeter. Rare in-depth personal profiles of Japan's master kite artists, includes 130 outstanding photos (52 in color). Informative and touching. History and folklore. No plans, but a joy to read and read again. Softcover, 181 pp., \$14.95

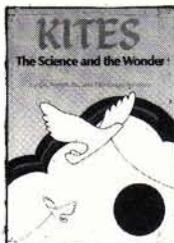
Flight Patterns by Leland Toy (from a television kitemaking series, 1984). Good fundamental tips and easy plans for 8 basic kites. Plans include a rotor made from foam meat trays and a Mylar fighter, plus fighting strategies. Easy to understand. Softcover, 36 pp., \$4.95



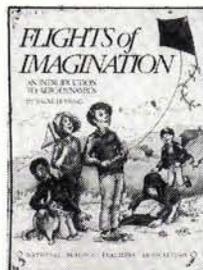
25 Kites That Fly by Leslie L. Hunt (kitemaker for the U.S. Weather Bureau). Originally written in 1929, and reprinted many times. Contains old reliable plans plus historical data and photos. Lots of details and kites not seen much anymore. Classic. Softcover, 110 pp., \$2.95



Chinese Kites by David Jue. First published in 1967. Contains brief history, tips, tools, techniques, designs and construction details for 10 simple kites using rice paper and bamboo. Includes Flying Lampshade and Double Fish. Color drawings. Hardcover, 51 pp., \$9.95



Kites: The Science and the Wonder by Toshio Ito and Hirotsugu Komura. Full of aerodynamics and theories. Numerous diagrams and charts. Originally published in Japanese (1979), the English translation (1983) is not very smooth. Softcover, 160 pp., \$11.95

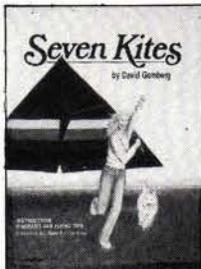


Flights of Imagination: An Introduction to Aerodynamics by Wayne Hosking. Plans for simple flying objects plus questions, answers and definitions for science students. Includes charts, tables and a do-it-yourself anemometer, wind vane. Softcover, 56 pp., \$6.95



Make Your Own Kite by John Jordan. Plans for nine kites using unusual, but easily obtainable, materials. Includes Computer Card kite and spinning Space Station. Clear instructions, amusing reading and personal anecdotes. Black-and-white. Softcover, 90 pp., \$6.95

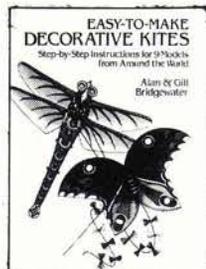
Seven Kites by David Gomberg. How to make seven basic kites and a windsock. Adequate instructions from workshop experience. Flying and general tips. Black-and-white illustrations, computerized text. Outdated resource list. Softcover, 64 pp., \$4.95



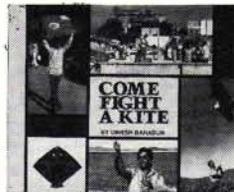
Super Kites II by Neil Thorburn. Numerous illustrations, creative construction techniques using readily available materials (mostly plastic trash bags). Also ideas for reels, equipment, and a little kite poetry. Good aerodynamic designs, but not for beginners. Softcover, 112 pp., \$7.95



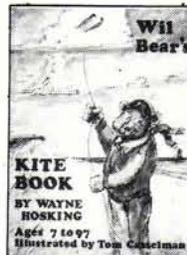
Easy-to-Make Decorative Kites by Alan and Gill Bridgewater. Plans for nine kites from "around the world." Surprising designs, unusual materials and strange construction. Kites are more decorative than airworthy, but drawings are large and clear. Softcover, 48 pp., \$2.95



Kite Flight by Jack Botermans and Alice Weve. Contains good variety of kites and accessories, especially construction materials. Attractive, but misleading photos and illustrations. Inaccurate English from the original Dutch makes the book hard to use. Softcover, 119 pp., \$9.95



Come Fight A Kite by Dinesh Bahadur. Published in 1978, now out of print. The only book devoted to the art of kite fighting. Includes history, construction, launching, flying, bridling, cutting line, rules and more. Nearly 100 black-and-white photos plus drawings. Softcover, 56 pp., \$3.95



Wil Bear's Kite Book by Wayne Hosking. Simple, introductory text and plans for Eddy, fighter, Conyne and box kites. Clear, understandable, but not over-detailed. Includes two pull-out paperfold kites and two full size patterns. Good for beginning groups, individuals, workshops. Softcover, 48 pp., \$4.95

The Kite Lines Bookstore . . . Continued

From ENGLAND . . .

MAKING & FLYING KITES



Making & Flying Kites by Wolfgang Schimmelpfennig. Fine selection of kites, plans, photos, tips and materials, but should be read very carefully. It's a poor translation from the original German. Softcover, 80 pp., \$9.95



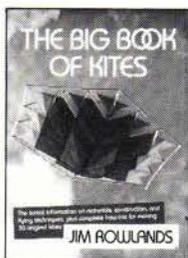
Fun with Kites by John and Kate Dyson. A bare-bones version of the original 1976 hardcover. Contains plans for 10 kites, lacking details and poorly bridled—thus not for children/beginners. Attractive cartoon-style drawings, metric measures. Softcover, 31 pp., \$4.95



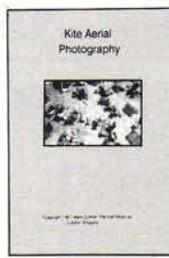
Kite Cookery by Don Dunford. Contains plans for four simple kites (box, delta, hexagon, dual-line diamond). Includes well thought out theories, aerodynamics and construction tips. Technical material in plain English. Still bargain priced. Softcover, 47 pp., \$2.95

ENGLAND continued . . .

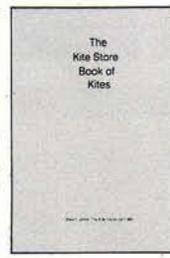
The Big Book of Kites by Jim Rowlands. Identical to the original British *Making and Flying Modern Kites*. Uneven instructions and drawings; includes 36 kite plans, four pages of color pictures, resources, index. Softcover, 127 pp., \$11.95



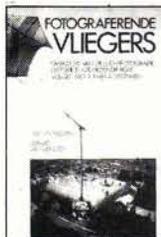
Kite Aerial Photography by Mark Cottrell. Everything you need to know about the subject to get started or improve your technique. Good combination of technical data and common sense. Self-published with computer. Softcover, 44 pp., \$10.95



The Kite Store Book of Kites by Mark Cottrell. Not fancy, but one of the most honest and refreshing kite books in years. Ten kite plans plus the author's philosophy and a floppy disk of computer programs (IBM) for kites. Softcover, 48 pp., \$12.95



From THE NETHERLANDS . . .



Fotograferende Vliegers (Picturetaking Kites) by Nop Velthuisen and Gerard van der Loo, in Dutch. Nice thorough treatment of kite aerial photography from earliest days to the present. Good photos, plans, technical details and advice. Hardcover, 120 pp., \$19.95



Vliegers Zelf Maken (Making Kites Yourself) by Harm van Veen, in Dutch. An extensive collection of kite plans from small to large, classic to modern, includes "Flying Jeans." Excellent photographs, fine illustrations, lots of details. Softcover, 111 pp., \$16.95



Kleine Papieren Vliegers (Small Paper Kites) by Harm van Veen, in Dutch. An expertly assembled little book. Includes detailed plans for 10 miniature fliers plus construction and flying techniques. Color photos. Softcover, 32 pp., \$3.95

From HUNGARY . . .

Papir Sarkany (Paper Kites) by Istvan Bodoczky, in Hungarian. How to make a wide selection of kites in paper, in all sizes. Includes standard kites and some original designs. Good illustrations and photos show construction details. Softcover, 80 pp., \$14.95



Sarkanyepites (Kites) by Istvan Bodoczky, in Hungarian. Wide selection of kite plans includes commercial designs (Flexifoil and Dunford). Also one-of-a-kind kites and exotic designs (Tukkal, Chula, Pakpao). Fine illustrations and color photographs. Hardcover, 207 pp., \$16.95



From ITALY . . .

Aquiloni (Kites) by Guido Accascina, in Italian. A veritable encyclopedia of kite information: history, plans, tips, techniques, sources and resources. Plus a dozen full-color kite postcards. The book's small size (4.5 x 6.5 in.) and print are a minor handicap. Boxed softcover, 256 pp., \$19.95



From BERMUDA . . .

Bermuda Kites by Frank Watlington. Authentic plans for five kites, plus variations, using traditional methods and materials (flour and water glue). Quaint, charming, and fun. Softcover, 24 pp., \$2.95



From FRANCE . . .

Le Cerf-Volant en Chine (The Kite in China) by Dominique Baillon-Lalande, in French. Many beautiful photographs (half in color) of ancient and modern Chinese kites. Some construction details, history, festivals and manufacture. Hardcover, 88 pp., \$39.95



From CHINA . . .

Fengzheng Jiayi Yu Chuangxin (Kite Artistry and Innovation) by Qinian Wang, in Chinese. Classic Chinese kites oddly mixed with modern Western ones. Many drawings, eight pages of color photos. A possible rarity; very limited supply. Softcover, 80 pp., \$11.95



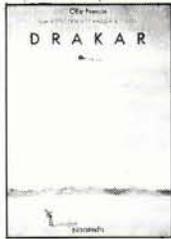
From TAIWAN . . .

Chinese Kites by Kin Kan Hsieh and Susan Hsieh, in Chinese and (not-very-good) English. Many illustrations and photos. Adequate text is informative, but not over-detailed. Large and colorful. Softcover, 84 pp., \$14.95



From SWEDEN . . .

Drakar (Kites) by Olle Nessel, in Swedish. Eclectic assortment of kites from a simple sled to complex creations by artist Curt Asker. Good photography, interesting historical information, few rudimentary plans. Hardcover, 64 pp., \$20.95



From NEW ZEALAND . . .

Kites for Kiwis by Colin McGeorge. Contains plans for 10 ordinary kites, plus the "Manu Taratahi," a native design made from local vegetation. Rudimentary tips and adequate illustrations, but New Zealand text requires translating. Softcover, 46 pp., \$6.95



REPRINTS of popular articles from Kite Lines!

New American Tradition: KITE FESTIVALS!

By Valerie Govig. Thorough guidance in festival organizing, standards, scheduling, location, budgeting, formats (competitive vs. non-competitive), judging, field events, awards. Includes "Figure Kiting" by Red Braswell. \$3 ppd.



By G. William Tyrrell, Jr. Fabric types, tools, "hot/cold" cutting, coloring methods, seams, hems, edge binding, reinforcing, multi-color piecing, design transferring, washing/ironing nylon; with a complete source list. \$1.75 ppd.



By Shirley B. Osborne and Mel Govig. Groups of 500 kids are no problem if you use this success formula. How to prepare for and make sled kites indoors or out; plus tips on how to get the most educational value from it. \$1 ppd.



By Valerie Govig. Complete discussion of kite records—how to document one, definitions and rules to observe in seeking a record, list of currently recognized records, new record categories, (more than Guinness)...\$1 ppd.



SOMETHING SPECIAL!

Elegant, antique color prints of ten classic Japanese kite scenes on heavy postcards from the Japan Kite Museum shop. Handy packet of 10 different cards within a matching protective folder. Suitable for mailing, framing or gift giving. \$8.95, postpaid.



KITE TALES ON MICROFILM

The complete set of *Kite Tales* (predecessor of *Kite Lines*) on microfilm—more than 1,600 pages—all 40 issues from October 1964 to November 1976. Here are 12 years of plans, profiles, commentary, news and resource material available nowhere else. A must for researchers, collectors or libraries. Per issue, \$2.50. Full set, \$85.00, postpaid.

ARE YOU MISSING SOMETHING?



BACK ISSUES of *Kite Lines* offer a wealth of information and ideas. Many readers regard *Kite Lines* as more an educational reference source than a magazine because of the timeless and hard-to-find nature of its contents. And because new information keeps popping up in kiting, we don't expect to repeat ourselves editorially. Of our 25 back issues, only two are still available in original paper copies, but all 25 are obtainable on microfiche, so the serious kiter need never miss an issue entirely. The microfiche may be read in almost any library and paper copies can be made on special copiers. Use the order form in this issue or write to us about your needs and we will try to match you up with someone who has back issues for sale. A partial list of the contents of all back issues is given below.



Back issues in paper, \$3.50
On microfiche, \$2.50

SPRING 1977 (Vol. 1 No. 1) Microfiche Only
Outrigger kite plans; Paul Garber profile; Two Marconi kite plans; Festivals of Japan; Tails; Paper bag kite; glue gun use.

SUMMER 1977 (Vol. 1 No. 2) Microfiche Only
The Perfect Kite?; People-lifting; Van Gilder's delta train; Van Sant's Trampolines; World Records; Stunt kites; Mike Weletyk.

FALL 1977 (Vol. 1 No. 3) Microfiche Only
Guatemalan kites; Seagull delta; Reels; Tails; Kite fishing; Ansel Toney; Vietnamese kite; Hazards of aluminized Mylar.

WINTER 1977-78 (Vol. 1 No. 4) Microfiche Only
Medieval dragon; Stacked delta; Tetrahedrals; Hundreds of Sleds; England's Jubilee Year.

SPRING-SUMMER 1978 (Vol. 2 No. 1) Microfiche Only
Rogallo Corner Kite; Lincoln Chang's Rokkaku; Flexifoils; Figure Kiting; Taxonomy Poster; Festivals; Safety.

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Reels Round-up; Van Gilder's Reel; Kite Museums; Chinese Bird; Two-string Delta; Kites in wilderness; Nags Head, Paris.

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SUMMER 1986 (Vol. 6 No. 2) Microfiche Only
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WINTER-SPRING 1987 (Vol. 6 No. 3) Microfiche Only
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SUMMER-FALL 1987 (Vol. 6 No. 4) Microfiche or Paper
Kool-Aid Kite Colors; Heat Sealing Plastic; Kites of Thailand; Make 2700 Kites in 3 Days; Ansel Toney; Tony Cyphert.

SPRING 1988 (Vol. 7 No. 1) Microfiche or Paper
Alpine Japan; Budapest, Hungary; San Francisco, CA; The Goble Starbox; The Comics Kite; Calendar-Almanac-Poster.

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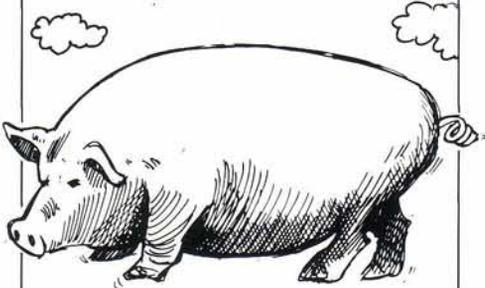
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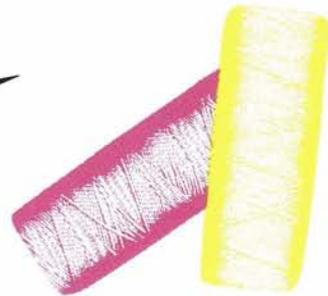
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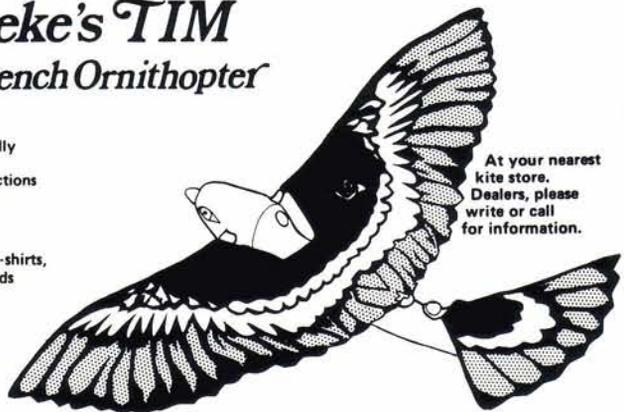
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KITES OVER AHMEDABAD

My first view of India, beyond the curtains and balcony of our hotel room in Delhi, was of kites soaring and darting in the morning light. The wind was just right, creating updrafts along the high walls. I should say that these were not the nylon or paper variety of kite, but the feathered and beaked kind, with a high-pitched squeal of a cry that would send chills down the spine of any small vertebrate below.

I watched them with the eye of a fellow flier and admired the grace of their dives and turns along the walls of the hotel.

I had come to India at the invitation of the Indian Government Department of Tourism to participate in their "First International Kite Festival," to be held in Ahmedabad, a city already famous for its annual *Makar Sankranti* festival, also known as *Uttarayan* or *Utran*. Every

January 14th, people from all over the city fly kites from rooftops to celebrate the end of winter.

Completing the international team were five other kites: Bill Lockhart, from Lubbock, Texas; and, from Japan, Masaaki Modegi, Hideo Matsutani, Seiko Nakamura and Yuzo Uchida. Along with my wife and partner, Clare Forster, our group set off to Ahmedabad, a five hundred mile flight south from Delhi.

Ahmedabad is a sprawling industrial city, accented by giant smokestacks piercing the thick haze. There was little to prepare me for the wild free-for-all battle waged by the cars, trucks, buses, scooters, bicycles, rickshaws, taxis and carts—all vying for position, horns blaring

a weird symphony in the rush to crowd every street and alley. Mix in a herd of wandering cows and buffalo, some wayward goats, dogs and donkeys, and you have a picture of India on the move.

Our first day was spent at the grounds of the International Kite Festival, inside a large stadium decorated with display booths, banners and concession stands. All this was put together by our hosts to expand the spontaneous city-wide rooftop celebration and was to include kite fighting contests, displays and demonstrations, plus our exhibition of international kites.

Our entire group was treated to a royal grand opening ceremony, welcomed with flower petals tossed by Gujarati girls in



ARTICLE and ILLUSTRATIONS by **GEORGE PETERS**

costume, and ceremonially dabbed with red spots on the center of our foreheads. (We were given similar blessings throughout our stay, so that our foreheads took on a permanent hue from rubbing and scrubbing.)

After listening to a session of opening speeches by city dignitaries, we started to unfurl our kites for the curious onlookers. They had never seen kites like these before. Out on the field, the kite fighting competitors were practicing their skills in the sky above us.

Brimming with enthusiasm, Hideo Matsutani and I ran out with our kites to join the aerial display. Moments later, Hideo's large kite was drifting over the reviewing stands, cut down by one of the sharp lines

of the Indian fighters. A loud shriek of delight went up from the spectator stands. It was then that I realized this different kite tradition in India would be something to contend with peacefully. I opted for a low-to-the-ground display of my Sky Writer ribbons on long fiberglass poles, waving them playfully over the heads of the crowd.

Kite fighting continued throughout the three-day event with very strict rules and formal displays by teams from all around India. We quickly learned to keep our distance from the sharp teeth of the *manja* (line coated with an abrasive mixture of glue and powdered glass) that stretched across the sky.

This day was especially important as

the last day to shop for kites, spools and string before the main event on the 14th. A last minute frenzy of shoppers packed the hundreds of kite stalls and shops along the already congested streets. The shops were bright with rows and stacks of *patang* (fighting kites), while overhead dangled spools of *manja*. The selling was fast and furious as the merchants emptied their stocks to the night crowds.

Intensive kitemaking had been going on for more than a month in various parts of the city, with family industries set up for supplying kites to over one-and-a-half million people. Each kite, despite the total quantity produced, was surprisingly well crafted. The local press estimated that the kite stalls had been selling 60,000 kites a day for the past week.

That night, after being whisked through the bazaars, we visited the Ahmedabad



Kite Museum situated in a modern Le Corbusier building. The exhibit was a beautiful collection of remarkably crafted Indian kites. The museum is run by Mr. Bhanu Shah, who proudly escorted us through his collection of backlit kites in tall glass cases.

We also viewed a video tape showing the skill used to produce these kites. The cutting of layers of different colored paper, the gluing and piecing to make the intricate patterned covers, the burnishing grid lines (as in ripstop nylon) to strengthen the paper, the quick knife blade shaping the bamboo spine and cross piece, and, finally, the gluing of the bamboo bones to the kite cover—all is done with remarkable speed and precision but, surprisingly, very little measuring or balancing. Kitemaking is a craft of instinct in the hands of these Indian masters.

After our tour, we were treated to a feast at the *Patang*, a revolving tower restaurant high above the city, colorfully decorated inside with kites. This city is crazy about kites. I like it here!

Looking out over the shimmering city lights, I saw an unusual apparition appear

just outside the window. A row of lights dangled in the darkness. A UFO? No, they were *tukkal* kites, flown at night for the *Makar Sankranti* festival. Small Chinese paper lanterns, lit with candles, were tied to the line as the *tukkal* kites were raised into the night skies. They were like swaying stars. Off in the distance, I could spot other lines of lights rising from the dark silhouetted rooftops.

Late that night, I joined in by raising a string of chemical lightsticks from a delta on our hotel roof. The bell boys and hotel workers helped me and were amazed by the little lights that glowed brightly when snapped.

The next morning I jumped up at first light to see if there was wind. From our hotel window I could see little spots of color starting to test the air above the buildings and along the dry riverbed that bisects the city. From the squatter villages along the riverbanks came the first participants eager to fly their kites. Some were carrying long poles for catching the kites cut loose in battle. The scene was wonderful and strange: buffalo and don-

keys being herded across the sandy riverbed, boys running and tugging at their spots of color circling in the morning haze, and eagles and crows soaring high above it all.

We left the festival grounds for a midday tour of the center of the city. From the top of a high commercial building, then from a family dwelling rooftop, the scene was simply overwhelming.

The sky was filled with fluttering and darting dots of color, from horizon to horizon, like an enormous school of tropical fish. Kites were falling like autumn leaves, drifting into trees, television antennas and down into the deep alleyways and streets. From our perch on the roof, we could hear shouts and jeers all around us whenever a kite was cut down, the string falling limp across other lines and over rooftops. In the streets, young boys were running through the traffic trying to catch the kites as they came fluttering down. They would wind up the string on their hands and run off carrying stacks of captured kites. Trees soon filled with kites, looking like dangling Christmas tree ornaments. Kites hung from telephone lines and store signs, the street boys trying to reach them with their long sticks. Buses ran over grounded kites, cows were seen eating them, and crows pecked at their paper companions in the treetops. Soaring far above the fray, the birds kept their distance, but occasionally one would snag a line with a wing and quickly fly away to safer altitudes. This wild spectacle continued throughout the day, littering the streets with drifting pieces of torn paper and broken bamboo.

The Japanese team grabbed cameras and clicked away at the scene around us. It was too much for the camera to take in: a brown and dusty city sprinkled with people on every rooftop, women in bright saris, men and children tugging frantically at the huge spiderweb of lines overhead.

On our way down from the roof, I stopped at a balcony to take in the sight one more time. The family on the next roof motioned for me to grab the line of one of their kites. They moved the line closer to my reach. From this precarious position, I tried to maneuver the kite into the cutting and attacking mode: fly high above the other lines, then make a sharp downward dive over the line of a lower kite. I was instantly cut down, and they shrieked and clapped with delight. Making

my bow and waving thanks, I rushed to catch up with our tour.

Back at the taller building, we joined the officials from our sponsoring agencies for a sky battle. Small black kites (with Playboy bunnies printed on them!) were passed out, and we were given lessons in the art of bridling. We poked holes in the cover with a straw, measured equidistantly to the bridle loop, and "set" the kite by rubbing the center spine over the top of our heads to create a slight bow in it.

The Indians were quickly in the air while we visitors struggled to launch in the turbulent rooftop air. I can proudly say that I cut down three kites (including the Director General's...oops!), and after losing only fifteen kites.

That night, at an open air restaurant outside the city, we were treated to another feast. The thatched hut complex was made to simulate a Gujarati village with waiting areas of huddled groups at campfires and long slab tables where we sat cross-legged. Delectable traditional dishes were passed one after another and dabbed on our sewn-leaf plates by turbaned servers. Around us, musicians played to folk dancers with jangling bells on their ankles. Puppets danced in a small cloth theater and people were swinging on large suspended chairs to the enchanting music and flickering firelight.

On the third day, the wind picked up. The Japanese lifted their richly painted rokkaku and traditional kites as well as Modegi's 500-foot train of small white diamonds. Bill Lockhart flew his quilt kites, and I lofted my collection of large birds, a pterodactyl, rokkaku, Edo and a two-string stunt kite.

The crowds loved the colorful display and whooped with each new kite brought out. We were surrounded by people while we struggled to launch the kites, and each person wanted to pull on the line to see how the monster kites responded to the tugging. "No good," they would say, because these Western kites were, to their eyes, inferior in their stable flight characteristics.

When one kite would drift near another, they would all shout, "Kapi! Kapi!" (Cut! Cut!), the battle cry of the Indian fighting kite. Throughout the festival, the questions seemed to center on why we fly kites only for the enjoyment of flying, and not for the sport of battle.

This seemed to puzzle the Indians.

With the closing ceremonies came the trophy awards (given out by Sir Edmund Hillary, of Mt. Everest fame) and a mass handshaking and farewell parade in front of the gathered crowds. We were celebrities in their eyes, the makers of large and exotic kites in a city that celebrates kiteflying as a symbol of the gods awakening after winter slumber. Young boys wanted our autographs, tourist officials wanted gift kites, newspaper reporters wanted endless interviews.

The next morning, we were whisked off to Delhi for a quickly arranged demonstration in the central business district of Connaught Place. Lucky for us, we were given a certain degree of crowd control, a relatively treeless raised park (with grass underfoot!) and a fresh wind coming from a favorable angle. We sprang into action. It was a short demonstration, but very satisfying, gathering a large crowd of lunchtime onlookers, press and television news teams.

The next day, Clare and I were off to central and southern India for three more weeks of travel and kite adventuring on our own. As the airline seatbelts were buckled and the morning newspapers

raised all around us, there on the front page of at least five separate newspapers was a different picture of the kites flying over the city. We were the only ones without a morning paper! We laughed as we taxied for the runway.

That evening, at our hotel on a hill overlooking the city of Hyderabad, I climbed out onto the rooftop for a better view of the surrounding city, much to the surprise of about fifty of those magnificent birds perched on the perimeter walls. They soared into the sky and circled overhead. I lifted my Indian fighting kite into the flock and we flew together until the golden light faded to black and the birds were replaced by darting bats.

After fifteen years of making and flying kites, this was my first true lesson in the joy of flying. ◇

GEORGE PETERS is an artist living in Boulder, Colorado. His works include banners, hangings, sculptures, paintings—and kites. He had done very little kite traveling before going to India. Now he says, "Kites are a wonderful passport."



KITES OF MAKAR SANKRANTI



In January of each year, kites and flying line literally sprout from the ceilings and walls of small shops in Ahmedabad, India.



S.S.

ARTICLE by **PHILIP MORRISON** PHOTOGRAPHS by SETU SHAH and PARTHIV SHAH

The December solstice is an old risky business. The sun we count on keeps sliding southward; his flight always slows down just in time, but still one worries a little that this time he might fail to return.

For many centuries the people of India have celebrated, not so much the very day of the sun's standstill, but the time when the sun is once again truly safe, passed beyond the fateful sign of Capricorn within which it is annually endangered. The name of the day, *Makar Sankranti*, means "the conclusion of Capricorn." All over India the day set by the old astronomers, January 14 (no longer with any precise sky-meaning), is a major holiday.

But in the busy city of Ahmedabad, 200 miles north of Bombay, the day is special. It is the day of universal kite combat under the glorious sun.

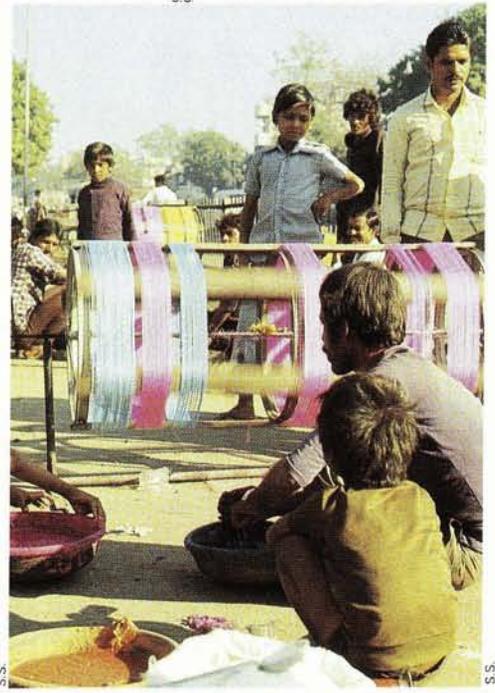
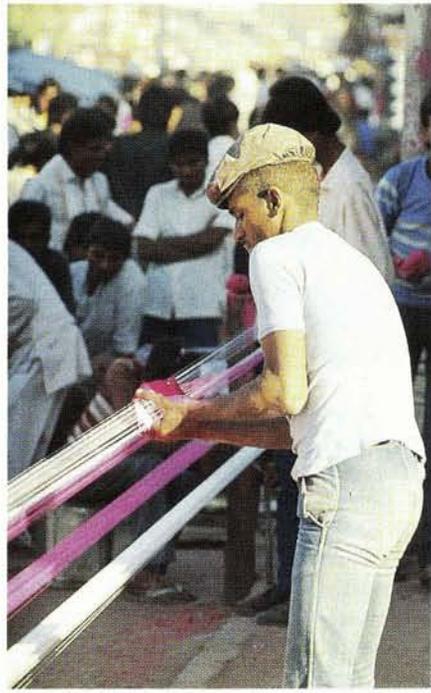
In that city all the roofs and their wide terraces are accessible, for during the furnace-mouth weather of May and June most people sleep up there under the night sky. On the day of the kites everyone who can climbs up to gaze into the cloudless blue of the bright winter day. The roofs are thronged, whether six stories above the crowded winding streets in the densely-built central walled city or out in the new districts rising only two or three stories.

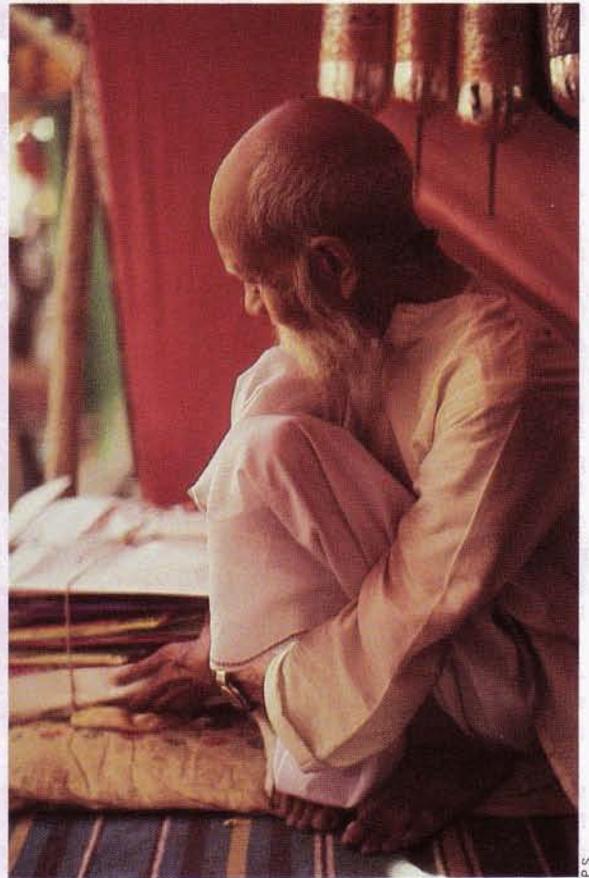
Like everyone else, you hold the kite string tightly; you stare happily, but a little warily, up at your dancing kite and the dozen that fly near it. Cut or be cut? Every roof around is as active as your own; minute by minute some taut string crosses another to end one kite's dance and send it fluttering helplessly to earth. The shifting many-sided battle is territorial: you cheer your roofmates' triumphs and grieve at their losses as your own. Victories abound, and the skillful earn wide envy, but proud success is fleeting; in minutes, the mighty have fallen in their turn. Defeat is fleeting too; you still have a dozen or two kites to launch and lose, until past midday, when you tire of the glare and go within for the happy dinner that ends the sunny day.

Kites are made, flown, fancied, studied and celebrated all year around by plenty of people in that part of the country. The old royal city of Lucknow holds a serious



Manjha by the mile: glass-coated flying line is prepared in any available space, including, as above, the streets. Left and lower left, the preferred technique is to apply the thick mawa or *luggdi* by hand. Lower right, another, faster method involves dipping the "threads" in a liquid mixture and rolling them on wheels for drying, but the line is lessened in strength and cutting ability.





Scenes in Ahmedabad, India:
 top left, a man carries on the centuries-old tradition of kitemaking;
 top right, an owner of a kite shop makes kites;
 lower left, some fliers play against the whole citizenry on the rooftops;
 lower right, the day leaves its sweet markings on the trees.



elite of kite fighters, who proudly claim the original design of the best kites and exhibit their sport in its purity whenever they can.

But in Ahmedabad—there are signs of spread to towns nearby—the matter is utterly different. Kites there are not aristocratic, but populist. For one long day, the whole citizenry gives itself over to flying kites.

I sample the view across the dense-packed rooftops of the old walled central city through binoculars. Reckoning field after field by distances on the map, I estimate at a busy hour that an easy 100,000 kites are in the air all at once!

True, the streets have been ruled by kites for weeks. The sidewalks and footpaths are lined everywhere by kite strings stretched out to be armed to order, men

rubbing the strings with the red-, green- or blue-dyed gluey mix that binds pounded glass powder to turn a kite string into a deadly saw. The light strong cotton string spun by the many mills of the textile city is mostly sold in plain 900-foot reels. Kites and reels are for sale everywhere in town: curbside candy stores, footwear shops, newsstands and juice bars are well-stocked kite stores for the short season. →

The kites are chiefly of two similar designs, tailless but with small tabs or tassels, their sails of paper, quarter-size up to full sheets, and a choice of color and decoration (purple and black are in current fashion). Some kite sails are of plastic film. Spars are shaped split bamboo.

For a couple of months beforehand, about 200 skilled craftsmen-kitemakers and their helpers have been building well-made kites, each team completing them by the hundred every day. Two million and more kites are certainly flown that day, nearly all destined for a quick end.

Kites are bought and sold not stingily one at a time, but by packs of fives and twenties, at about a rupee each (six cents using the dollar exchange rate, five times as much in terms of buying rice or sugar). The biggest kites go for eight rupees.

Small children aim to loft only one kite; all over town urchins become salvage artists and tireless tree-rakers. Their borrowed bamboo fishing poles poke eagerly into tall kite-eating trees along every street.

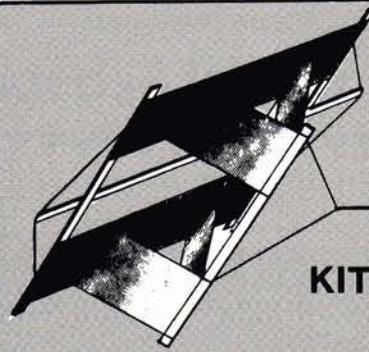
The boldest youths maneuver daringly high on the narrow cornices and parapets, seeking some advantage of angle in the light seasonal winds at risk of life and limb. Fatal falls and even throats slashed by taut glass-coated strings are reliably recorded.

Twilight is swift, and night falls on a few thousand kites that mimic the stars, no longer fighting but bearing paper lanterns that gleam in the dark, sometimes to fall and set a fire with their stubby candles, a danger for which Ahmedabad firemen are resignedly prepared.

This is a city suffused for one glorious day by the ubiquitous joy of flying kites. The photos here, taken in January 1989 by two kite-wise young local photographers, convey some of the detail, color and civic passion.

Go there some year if you possibly can, to welcome back the winter sun with a living skyful of mortal kites. ◇

PHILIP & PHYLIS MORRISON visited India this year, their third time, and flew some of the million kites of the day in Ahmedabad. The Morrises, of Cambridge, Massachusetts, are well-known academics and collaborators responsible for the public television series "The Ring of Truth." Their Benjamin Franklin lecture at the National Academy of Sciences last year was appropriately attentive to kites.



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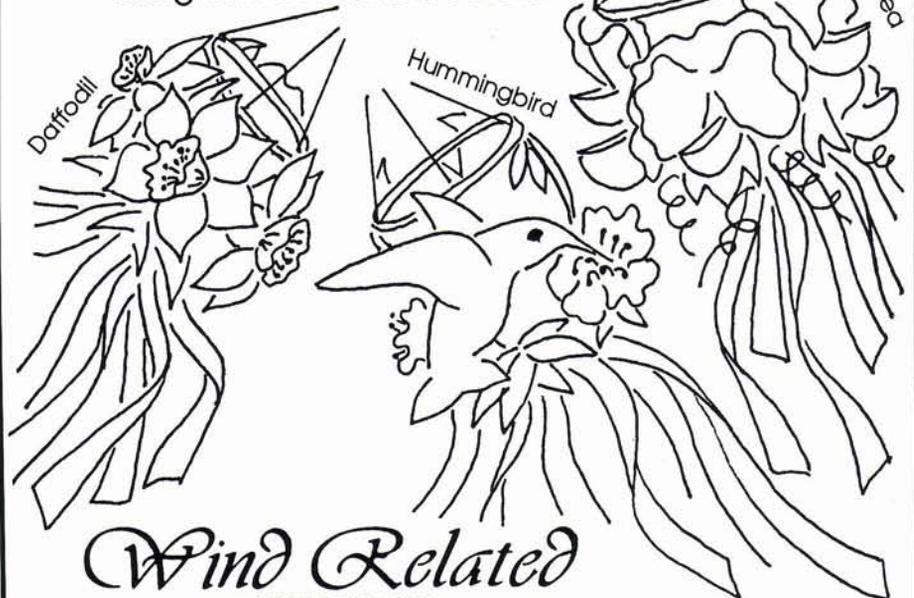
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Sleds for All Seasons

By John W. Loy

"It is not my purpose to tout specific designs or their originators, but to outline the fundamentals, so that we are able to correct misbehavior, or else come up with successful new variations."

Photograph by Ed Grauel of a haltered swallowtail sled he made of ripstop nylon with 26-inch battens.



All of us kitefliers are permanently indebted to the late William M. Allison for inventing the "sled" kite. Easily and inexpensively constructed, it is ideal for getting youngsters interested in kiting, to say nothing of adults who are novices.

It is important that a newcomer's first construction fly reasonably well. A simple sled will do just that.

Although Allison invented his kite in 1956 (U.S. patent 2,737,360), the design did not become well known until the late 1960s. Figure A (right) illustrates one of the simplest plans and a sketch of the configuration in flight.

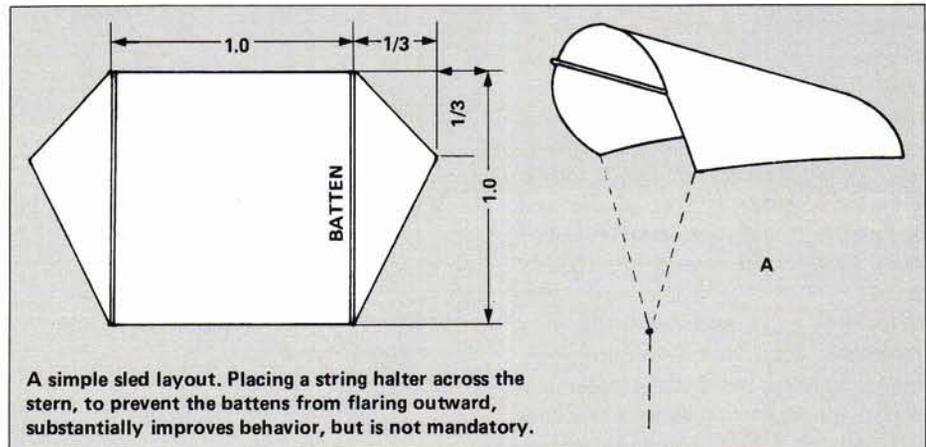
THE SLED

A sled is a "semi-soft" kite. A pair of battens stiffens it only in the chordal direction (from leading edge to trailing edge). The surface between the battens we call the canopy. The pair of triangular surfaces outboard of the battens we call the laterals.

Since the leading edge is soft, it tends to collapse—with annoying frequency—in scruffy wind conditions. This fault is easy to correct if we think a bit on why it occurs.

Visualize yourself holding a thin ribbon, stretched taut between your two hands. Held edgewise in a strong wind, the ribbon will not twist or collapse—so

Ed note: The fact that a kite design has been patented does not mean that you cannot make one for yourself—for your personal use or to give to a friend. However, a kite patent, while still in effect, does prohibit the manufacture and sale of the design, unless, of course, it is done by or with the permission/agreement of the patent holder.



long as you maintain sufficient tension. So it is with the leading edge of a sled. A properly constructed sled is as reliable as any other kite, and more so than many. It does not require a tail or drogue.

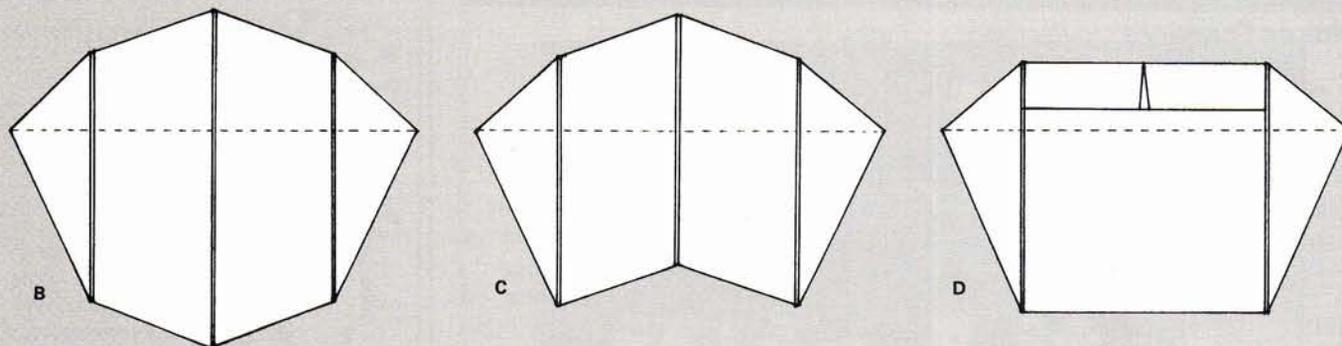
THE ATTITUDE

Maintaining tension on the leading edge involves firstly positioning the lateral tips, which represent the bridle points, so as to cause a sufficiently steep attitude of the canopy. (Some use the term "angle of attack," derived from aircraft terminology. Kites don't attack the wind, they obstruct it.)

A safe position for the lateral tips is on an imaginary line such that one-third of the area of the canopy is forward of the line. This results in an attitude of about 32 degrees in brisk wind, which is rather steep, but does tend to keep plenty of

tension on the leading edge. This one-third rule thus involves a sacrifice in angle of elevation. Moreover, the steeper the attitude, the greater the obstruction to the wind and the greater the stress on the kite and flying line.

The fields we prefer for kiteflying frequently generate updrafts. In that case, the kite senses the wind as coming from slightly—or even much—below level. The kite necessarily maintains the attitude set by the bridle points, but aligned to the perceived wind direction. This may or may not result in overshooting the zenith. More likely, in gusty or erratic thermals, the updraft ceases for a moment. The sled is trapped momentarily in a level wind at an attitude much too shallow for the new wind direction. The tension on the leading edge drops to below critical and the canopy collapses. It may or may not reopen.



Three variations of canopy layout: (B) Rokkaku, (C) Swallowtail and (D) Hooded. A conservative ratio for canopy area forward of the dotted reference line between lateral tips is 0.28 (28%). All varieties should have a halter across the stern (see text).

THE COLLAPSE

When a sled collapses, the forward tips of the battens close inward while the stern tips briefly flare outward, then slap together as part of the total event. Since all this may occur in no more time than a second or two, it is no wonder that we don't always understand what is going on up there.

Moreover, the converse of the action just described is a significant source of failure in conventional sleds. Turbulence can cause the stern tips to flare outward, which simultaneously results in the forward tips closing inward, hence collapse. The cure is very simple, requiring about two minutes to install.

THE HALTER

Simply tie a string "halter" across the stern tips of the sled, the length being roughly 50-58% of the flat width of the canopy. The idea is to keep the battens approximately parallel in flight. (The concept is covered in my U.S. patent 4,243,191 of January 6, 1981.)

An additional and important advantage of the halter is that it assures reliable flight at significantly shallower attitudes and, therefore, better elevation.

THE CANOPY

We don't have to be locked into rectangular canopies for sled kites. Think of the canopy area forward of the bridle points as a proportion or percentage of the total area of the canopy. If the wind conditions are not downright vicious, I have found that a haltered sled can tolerate a ratio as

low as one-fourth (25%). The outcome is a shallower attitude, roughly 23 degrees, better elevation, and less stress on both the kite and the flying line.

Sleds tend to be not very pretty kites, although I personally rate reliability above beauty. However, we can at least employ formats other than a rectangle for the canopy. Figures B and C (above) offer two variations—the "rokkaku" and the swallowtail—which have been tested thoroughly.

To be on the safe side, I recommend that the canopy area forward of the dotted reference lines be about 28% of the total canopy area.

For the flier who likes to experiment, it is easy to install a ratio of 25% in the original construction. Then, if the kite shows a tendency to collapse, simply trim off 10% of the canopy area at the stern and thus modify the ratio to 28%. This can be done on the field.

Apart from aesthetics, the "rokkaku" version possesses two distinct advantages. One is the "plow effect" of the pointed nose. The airstream on the lee side of a sled is a turbulent mess. The snout helps to maintain symmetry of airflow over the lee surface. The other advantage is that the rokkaku canopy will usually reopen if adverse wind conditions happen to collapse it. The snout continues to catch the wind.

If, instead of installing a matching triangular section at the stern, you cut out a triangular section, the result is a swallowtail (my U.S. patent 4,272,394 of July 21, 1981). Of course, the position

of the lateral tips must be adjusted.

The "hooded" sled (Figure D, above) is made for really awful wind conditions. From the same material as used for the canopy, cut a flap of the same span but one-fifth (20%) the height of the canopy. Tape, sew or glue the leading and lateral edges of the flap to the top of the canopy. Leave the trailing edge of the flap free. Cut a slit chordwise in the flap along the centerline. Overlap the edges of the slit and fasten them together so that the flap is made narrower roughly three or four percent. (For example, if the span were 20 inches, the overlap would be 5/8 to 3/4 inches.) In flight, the trailing edge of the flap will not touch the canopy. The gap provides a small beam effect, but, more importantly, the surface of the flap has a slightly higher attitude than the main canopy. Tension on the leading edge is amplified and kept that way.

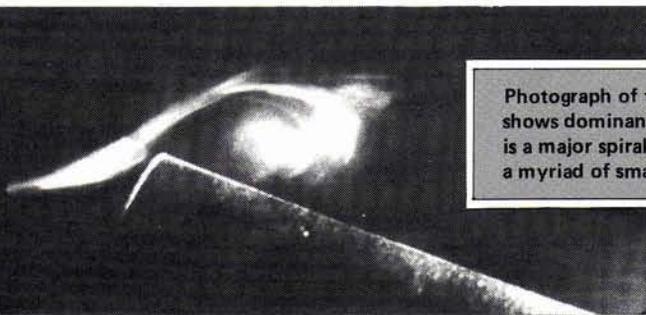
I have never observed failure of this kind of sled in any wind that I myself could endure.

Some sleds which I have seen had one or more "vents" cut out of the canopy. These kites likely will perform better if the holes are replaced with a swatch of surface material and a halter tied across the trailing edge. I suspect that the holes compensate for misplaced bridle points.

THE BRIDLE

The length of the bridle legs is important, but not critical, just so they are long enough. A handy rule of thumb is five times the width of the canopy. Each end of the bridle, of course, connects to a

"Here we are at the tail end of the 20th century, and it is about time that serious kitefliers understand how a kite maintains its position...."



Photograph of test sled in wind tunnel shows dominant vortex at centerline. There is a major spiral vortex on either side, and a myriad of small, random vortices.

lateral tip. A shorter bridle tends to draw the lateral tips inward, which may adversely affect flying. A longer bridle tends to make launching awkward.

CONSTRUCTION

There are more than enough books and other publications dealing with construction materials and techniques. My remarks will be very few. One of these involves my distaste for stretchy surface materials, especially low-density polyethylene. This is the stuff used for garment bags, trash bags and the like.

Contrary to logic, the tension in the leading edge of a rectangular canopy is not necessarily uniform. The reason is that, with only a tiny bit of stretch, tension transmitted from a lateral tip to the leading edge bypasses in part the area in proximity to the forward tip of the nearest batten. With binoculars, we can often see the stress wrinkles in the canopy. They tend to be aligned between a lateral tip and the central portion of the leading edge. This explains why collapse of the leading

edge is initiated by a folding over of a segment between batten and centerline.

The use of grommets in the lateral tips also can result in tension bypassing the leading edge of the lateral and, hence, the leading edge of the canopy. The bridle legs should lead directly from the very tips of the laterals, with appropriate reinforcement by way of overlying gussets.

In the case of a sled specifically constructed for high wind, a cord should be attached to the very edge of the lateral for a suitable distance forward and aft of the tip, leaving a small loop at the tip. The bridle leg then ties to the loop.

A "snouted" design—the rokkaku for instance—helps to transmit and maintain tension more directly to the canopy's leading edge. In fact, if the flier wants to fiddle with geometry of a triangular foresection, the leading edge of the lateral can lie on the same straight line with the connecting leading edge of the canopy. I did not draw Figures B and C this way because I did not want to mislead readers to supposing that a straight-line layout is necessary. It's just a technical nicety for severe wind conditions.

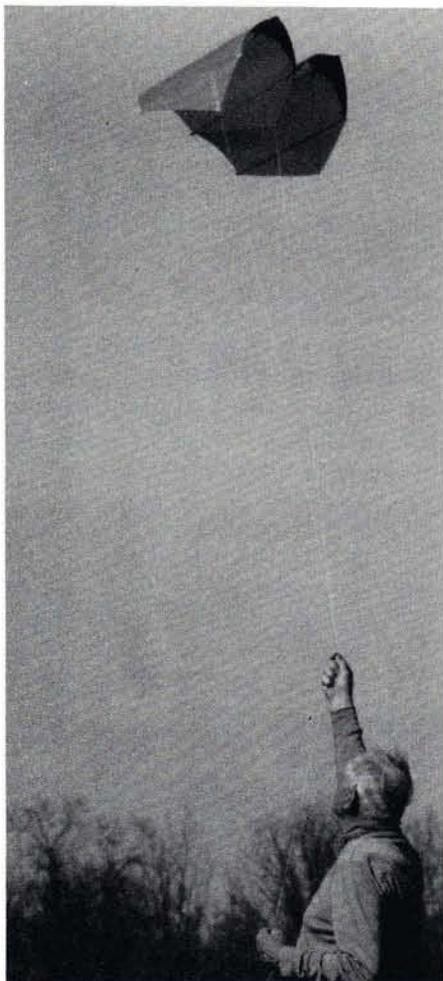
THE TAIL END

Most kitesers will readily agree that a wealth of technical knowledge is not a prerequisite to successful kiteflying. Thus, I am not suggesting that you rush right out and buy or build a wind tunnel of your own.

However, here we are at the tail end of the 20th century, and it is about time that serious kitefliers understand how a kite maintains its position in the absence of a pilot or instrumentation.

Young children are not interested in talk about attitude, tension, towing points and all that jazz. On the other hand, if a child asks you, an adult, why his or her kite does not fly, you had better have a good answer. ◇

JOHN W. LOY (left, with double-canopied sled) writes from Bartlesville, Oklahoma: "While living in Tokyo (1968-73), I became interested in the fundamentals of why kites fly and why they don't. During 1974-77, I was posted in India and made some headway on the technical side; likewise in Hong Kong in 1977-79. After retiring as an executive with Phillips Petroleum (1979), I finally got around to constructing a rather capable wind tunnel and, after three years of operating it, have compiled a large amount of quantitative data on behavior of a wide variety of kite forms. In the process, I learned some things that astonished me."





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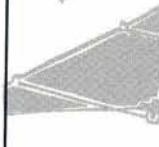
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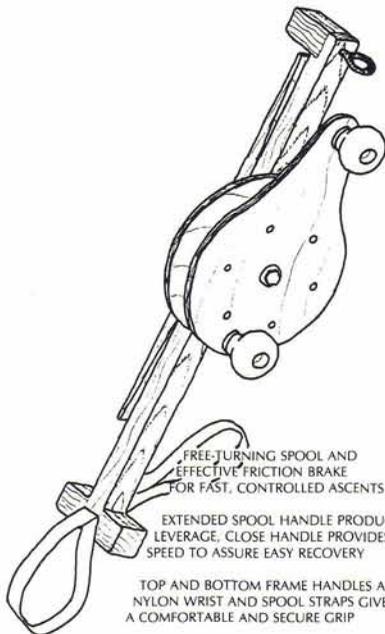


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The Great Kite Lines STUNTER SURVEY

Ten years ago, one could easily tally all the commercially available stunt kites without running out of fingers: Flexifoil, Peter Powell, Rainbow . . . not many more. No big deltas—no little ones, for that matter—and no long trains. Stunt kite competitions, when you could find them, were usually limited to a single event in the midst of otherwise non-acrobatic festivals.

It's a chicken/egg thing, but as the number of converts to kiting has grown, so have the number and variety of two-string craft, to the point that the selection available today is simply mind boggling.

About a year ago, to help the stunt aficionado sort things out, *Kite Lines* took the first steps to assemble a panel of fliers to do a comprehensive review of all the stunt kites on the market. I was asked to crunch the data and try to make sense of it.

A preliminary questionnaire, a list of kites and a rating chart were sent to each of 60 fliers, selected because of their varied experience and their independence from brand-name loyalties. This mailing brought forth many suggestions for other panelists and kites, along with comments which helped sharpen the methodology. This feedback was incorporated into a final survey which was sent to an enlarged list of panelists in the Fall of 1988. The reviewers were encouraged to add new kites to those on the list of more than 90 designs and to evaluate them, too, if they wished.

By the deadline, we had received 361 reviews of 92 different kite designs from 36 fliers. Single kites were in the majority, but also included were some impressive trains: Rainbows from 3 to 24 kites, two trains of Hyperkites Starcruisers over 20 kites long, and Flexifoil six-footers in stacks from 3 to 26 kites.

To preserve as much objectivity in the ratings as possible, we decided to eliminate from the tabulation any kites flown by fewer than two reviewers. In addition, we excluded any reviews that slipped in from panelists we determined were stunt kite manufacturers. Even with those exclu-

sions, we ended up with 49 single kites and 11 models flown in train.

Each kite or train was rated in 13 areas of functionality and performance. The categories included portability, assembly time, durability, ease of repair on the field, ease of launch and landing, amount of pull, degree of control, speed in a straight line and in turns, and turning radius. Fliers also were asked to rate the kite's "wind window," that is, how far it could be flown to the sides before stalling, and to estimate its wind range and the skill required to fly the kite.

All ratings were to be made on a scale of 1 to 5, with 1 representing "lowest/worst" and 5 "highest/best." We thought

cies noted earlier, we totalled all the ratings in each review *except for skill required and pull*, to give us an Adjusted Total score. Then we averaged the individual ratings for each kite and averaged the Adjusted Total Scores as well, to give us a number by which we could compare overall functionality and performance of each design with others. The tables show these averages and are ranked by Adjusted Total Score.

Each review sheet provided space for comments, but since computers don't "reason," it's difficult to average and tabulate these remarks. The comments, in most cases, echoed and reinforced the results of the tabulated data. Some generalizations can be extracted, however:

● Best kite for beginners, said the panel, are the Trlby Poly, Peter Powell, Hyperkites Ghosties and Skynasaur F-36. The Trlby

Poly (at about \$15) was also the kite most often called "best for the money."

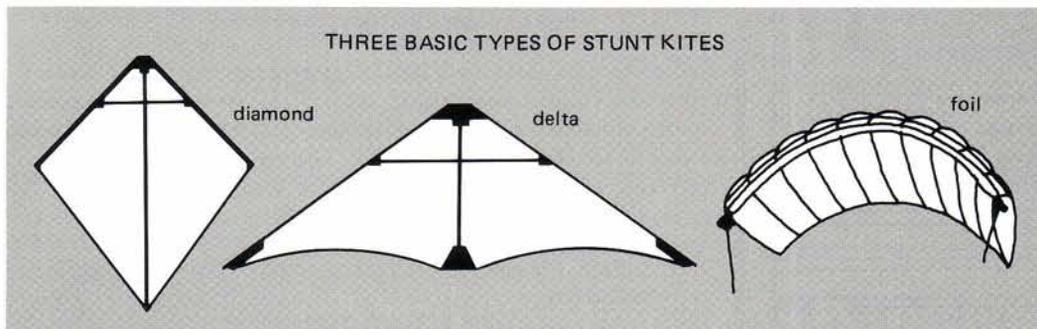
● While both received high marks and were applauded for their quality, the Top of the Line Hawaiian Team Kite (at \$160) was thought to be "fairly priced" by most, while the Flexifoil 6-Foot Stacker (at \$130) was the kite most often called "overpriced."

● Although no longer in production, the Rainbow Stunt Kite was universally acclaimed as a classic and lamented for its departure. Likewise, the kite most often called "fun" was Hyperkites' Ghosties, also discontinued.

We are sorry that there were not more reviews of some of the kites less frequently seen. We feel that readers should at least be aware of the names of some of the stunters that didn't make it to the tables, so we have listed all those that we know of at this writing (*see box on page 56*).

Still more stunt kites—notably the four-line variety—have come on the market since this was written. We hope to include many of them, as well as smooth out our survey's rough spots, in an even more comprehensive review next year.

—Brooks G. Leffler



that seemed simple and straightforward enough to be understood by all, but our assumption overlooked the fact that lowest isn't always worst, and highest isn't always best. This confused the ratings in two areas: skill required and pull. Some panelists, for example, rewarded an easy kite with a 5 ("best") in skill, while others gave the same kite a 1 (for "least" skill required). Likewise, some thought strong pull was worth a 5, while others thought it was bad and gave it a 1. While these discrepancies were smoothed out somewhat in the averaging for these two categories, we thought it best to work around the problem in our overall scoring, as you will see in a moment.

In analyzing the survey results, we grouped the kites broadly by size and design. For single kites, we split them into small, medium and large diamonds, deltas and foils, plus miscellaneous designs. For trains, we divided them simply into small, medium and large kites. Note that the two smallest Flexifoils fell into different size groups for trains than they did for singles, simply because they fit better that way into the simplified groupings we used for trains.

To accommodate the ratings discrepan-

SINGLE STUNTERS

Ranked within groups by descending Adjusted Total Score. Ratings are based on a scale of 1 ("lowest/worst") to 5 ("highest/best"). See text.

Adj Tot	Manufacturer & Model	Fliers (#)	Portability	Asbly Time	Durability	Repairability	Ease of Launch	Ease of Landing	Skill Req'd	Pull Accy	Straight Turn	Speed Turn	Speed Turn	Radius Turn	Wind Window	Wind Range	Score
42.22	Flexfoil Hot Shot 4	9	4.8	4.8	4.5	4.4	4.0	2.7	2.8	2.6	2.7	2.8	2.6	2.6	3.4	2.8	3.0
38.60	Skyman C-26 Skyfoil	5	5.0	5.0	4.4	5.0	4.4	2.8	2.4	2.2	2.6	2.6	2.6	2.6	3.8	2.8	2.6
SMALL DIAMONDS																	
42.66	Rainbow Stunter	6	4.8	3.6	3.6	3.1	3.6	3.6	3.6	1.8	4.3	4.5	4.5	4.0	4.0	4.0	2.5
33.50	Ace 74cm/29"	2	4.5	4.0	4.0	3.5	3.0	3.5	2.5	2.0	2.0	2.0	2.0	2.0	2.5	2.5	2.5
SMALL DELTAS																	
47.50	Hyperties Starcruiser	2	5.0	4.0	3.5	4.0	4.0	4.0	3.0	4.5	5.0	5.0	4.5	4.0	4.0	4.0	2.2
42.33	Skymanur Skytox	3	4.6	4.3	4.3	3.6	2.6	3.0	3.0	4.0	4.3	4.0	4.0	4.0	3.3	3.3	2.1
40.50	Skymanur F-36	6	4.6	4.3	4.0	3.6	3.0	2.3	2.1	3.8	3.6	3.3	3.3	3.3	3.6	3.6	2.1
40.50	Action Sky Dart	6	4.1	3.6	3.6	3.0	3.3	2.5	2.5	3.6	3.8	4.3	4.3	3.5	3.5	3.5	4.0
36.85	Skymanur Aerobat	6	4.0	3.8	3.5	3.2	2.8	3.4	2.5	3.4	3.1	3.1	3.1	2.8	3.4	3.4	2.7
36.50	Skymanur Sweptwing 48	4	3.2	3.2	3.5	3.2	2.7	2.7	2.2	3.7	3.5	3.5	3.5	3.0	3.0	3.0	2.7
MEDIUM FOLDS																	
44.15	Flexfoil 6 Ft Stacker	20	4.7	4.7	4.7	2.8	2.8	3.1	3.2	3.3	4.1	4.8	4.3	3.6	4.2	4.2	8 to 32
MEDIUM DELTAS																	
40.33	Peter Powell 3-Foot Poly	2	4.0	4.3	4.3	3.6	4.0	4.0	3.6	3.0	2.6	3.6	3.3	3.3	3.3	3.3	9 to 26
40.25	Thby Ripstop	4	4.5	4.5	4.7	3.2	3.7	4.0	2.2	2.0	3.2	2.7	3.0	3.0	3.2	3.2	5 to 16
38.44	Thby Poly	8	4.6	4.1	4.1	3.3	3.5	3.0	2.3	3.2	2.8	3.0	3.0	3.0	3.5	3.5	7 to 19
33.50	Ace 93cm/37"	2	4.5	4.0	4.0	3.5	3.0	3.5	2.5	3.0	2.0	2.0	2.0	2.5	2.5	2.5	7 to 22
LARGE FOLDS																	
45.00	Turning Point Windjammer	4	4.2	4.5	4.0	4.5	3.0	3.2	3.7	3.2	4.0	4.5	4.0	4.0	4.7	4.7	12 to 26
45.00	Kites By Craig Zipper	2	4.5	4.0	3.5	4.5	3.5	4.5	2.5	2.5	4.0	4.0	4.0	4.0	4.5	4.5	7 to 20
44.40	Action Noname	8	4.4	4.1	3.9	3.2	4.0	3.7	3.2	2.7	3.6	4.4	4.7	4.6	3.8	3.8	8 to 29
43.88	L'Atelier du Vent Spyro-Jet UL	9	4.2	4.2	3.4	2.7	4.0	3.8	3.1	1.6	4.1	4.4	4.4	5.0	4.4	4.4	2 to 15
42.60	Avenger Revenger	4	4.4	4.2	4.2	3.8	3.8	3.0	2.0	4.2	3.8	3.4	3.8	3.8	4.0	4.0	6 to 20
39.00	Go Fly a Kite 2200cc	6	3.8	3.8	3.0	2.6	3.1	3.1	2.8	2.8	3.6	3.5	3.6	3.3	3.5	3.5	6 to 28
38.18	Avenger Avenger	11	4.4	4.0	3.8	3.3	3.1	3.1	2.9	3.0	3.7	3.0	3.0	3.0	3.3	3.3	9 to 23
35.66	Skymanur C-74	3	3.6	3.6	2.6	3.0	3.0	3.0	4.3	4.3	3.3	2.6	3.0	3.0	3.3	3.3	6 to 24
35.25	A-Foar-A Viper	4	4.0	4.0	1.5	2.5	3.2	2.7	3.2	2.5	3.5	4.0	4.0	2.5	3.2	3.2	9 to 25
34.50	Kite Master Co. Aerohead	2	3.0	3.0	3.5	3.5	3.5	2.5	2.5	4.0	3.0	3.0	3.0	2.5	3.5	3.5	8 to 25
34.00	Vertical Visuals Phoenix	2	3.3	3.3	2.3	2.3	2.6	3.3	2.6	2.6	3.0	3.6	3.6	3.0	3.3	3.3	7 to 22
LARGE DIAMONDS																	
42.63	Flexfoil Super 10	11	4.2	4.3	4.3	2.9	3.1	3.1	3.4	4.4	4.3	4.8	3.7	3.0	4.4	4.4	6 to 30
33.00	Flexfoil Hyper 16	4	3.5	3.2	3.0	1.7	2.2	3.3	5.7	3.0	3.0	4.0	2.5	2.5	4.0	4.0	5 to 18
LARGE DELTAS																	
40.70	Peter Powell 4-Foot Nylon	10	3.6	4.3	4.2	3.1	4.3	4.0	3.7	3.3	3.9	3.4	3.2	3.5	3.9	3.9	9 to 27
40.25	Peter Powell 4-Foot Poly	4	3.7	4.5	3.2	3.5	4.2	4.0	2.2	2.2	3.7	3.2	3.2	3.0	3.0	3.0	9 to 27
39.16	Peter Powell 6-Foot	6	3.0	3.8	4.3	3.3	4.3	3.8	4.0	3.6	3.8	3.1	3.0	3.0	3.5	3.5	8 to 22
37.50	Peter Powell Mark II	2	3.0	3.0	3.0	2.0	4.0	3.5	1.5	2.5	3.5	3.5	4.0	4.5	3.5	3.5	8 to 30
MISCELLANEOUS DESIGNS																	
49.00	Action Fire Dart	3	4.6	4.6	4.0	3.6	4.0	5.0	3.6	3.0	4.6	4.0	4.0	4.0	5.0	4.6	3 to 15
48.81	Top of the Line Spin Off	15	4.3	4.1	4.1	3.3	4.3	4.4	3.4	3.5	4.5	4.2	4.5	4.5	4.5	4.5	6 to 26
46.00	L'Atelier du Vent Spyro-Jet	6	4.5	4.1	4.1	3.0	4.0	4.3	3.1	2.6	4.5	4.3	4.3	4.3	4.5	4.5	8 to 32
44.33	Top of the Line Spin Off UL	9	4.0	4.1	4.1	2.8	3.1	4.2	3.7	2.5	4.4	3.6	4.6	4.6	4.6	4.6	4 to 16
43.40	Top of the Line Team Kite	20	3.9	3.9	4.5	3.1	4.2	4.2	3.7	4.2	3.7	3.4	3.4	3.4	4.3	4.3	7 to 26
41.50	Top of the Line Team Kite UL	2	3.0	4.0	4.0	4.0	4.0	3.0	3.0	2.5	4.5	3.5	3.0	3.0	4.0	4.0	4 to 13
41.00	Action Star Dart	4	3.7	3.0	3.7	2.5	4.0	4.0	2.7	2.7	4.0	4.0	4.0	4.0	4.0	4.0	8 to 27
40.25	Action Action 82	2	3.7	4.0	3.7	3.0	3.5	4.0	2.7	2.0	4.0	3.2	3.5	3.5	3.5	3.5	9 to 27
39.66	Crystal Kite Co. Raven	2	3.6	3.3	3.6	3.0	3.6	3.6	3.3	3.3	3.6	4.0	4.0	4.0	3.6	3.6	8 to 23
39.42	Action Super Sky Dart	6	4.0	3.5	3.2	3.7	4.0	4.0	4.1	4.1	3.7	3.5	3.5	3.4	3.5	3.5	7 to 26
35.66	Striker Aero-Sport	3	4.0	3.6	4.0	3.3	3.6	3.0	2.6	3.3	3.3	2.3	2.0	2.0	3.3	3.3	7 to 36
35.25	Vertical Visuals Grphoon	4	2.7	3.5	2.7	2.5	4.0	3.5	2.7	3.7	3.2	2.7	3.0	3.0	3.7	3.7	5 to 13
33.33	Striker Challenger	3	3.0	2.6	2.6	3.0	2.6	3.0	3.0	3.0	3.0	3.0	3.6	3.6	2.6	2.6	7 to 35
32.66	Peter Powell Wing	3	3.0	3.3	2.6	2.3	3.3	3.3	3.0	3.0	2.6	3.0	3.0	3.0	3.3	3.3	9 to 27
29.33	Coyote Mobius Autogyro	2	3.6	4.0	2.6	1.6	1.6	2.6	2.3	2.3	2.3	2.6	2.6	2.6	2.6	2.6	12 to 30
29.25	Sky Delight Kites F-16	2	3.0	3.0	3.2	2.7	2.2	3.0	3.2	3.0	3.2	3.2	2.5	2.2	3.2	3.2	10 to 22
27.00	Dunford Flying Machine	3	2.6	1.3	2.3	2.6	2.6	3.3	3.3	2.6	2.6	2.6	2.6	2.0	2.0	2.0	8 to 21

STUNTER TRAINS

Ranked within groups by descending Adjusted Total Score. Ratings are based on a scale of 1 ("lowest/worst") to 5 ("highest/best"). See text.



Adj Tot Score	Manufacturer & Model	Fliers (#)	Avg Stack	Portability	Asbly Time	Durability	Repairability	Ease of Launch	Ease of Landng	Skill Req'd	Pull	Accu-racy	Straight Speed	Turning Speed	Turning Radius	Wind Window	Wind Range (mph)
SMALL KITES																	
42.37	Rainbow Stunter	8	8	4.2	3.3	4.2	3.2	3.5	4.5	3.6	3.0	4.5	3.7	4.1	2.8	4.0	9 to 31
41.60	Hyperkites Starfighter	5	5	4.6	4.4	4.0	4.2	3.4	3.0	3.6	3.2	3.6	3.8	4.0	4.0	2.6	10 to 29
39.90	Hyperkites Starcruiser	8	9	4.1	3.8	3.6	3.9	3.4	3.4	3.8	3.8	3.7	3.6	3.6	3.3	3.4	8 to 21
36.80	Hyperkites Ghosties	4	3	2.6	3.6	4.2	3.2	3.8	4.4	3.2	2.6	3.6	2.0	2.8	2.8	3.8	6 to 20
30.50	Crystal Ballet Stunter	2	3	3.5	3.5	3.0	2.0	3.0	3.0	2.5	2.0	2.5	2.5	2.5	2.5	2.5	7 to 22
MEDIUM KITES																	
38.83	Trlby Poly	6	5	2.8	3.1	4.5	3.8	3.3	4.0	3.3	3.1	3.3	3.1	3.6	3.3	3.6	6 to 20
38.50	Trlby Ripstop	2	8	2.5	4.0	4.5	4.5	3.0	4.0	3.5	3.0	4.0	3.0	2.5	2.5	4.0	10 to 20
38.00	Flexifoil Hot Shot 4	2	3	4.6	3.0	3.6	2.3	3.0	3.0	2.6	2.6	3.3	4.0	3.6	3.6	3.6	6 to 35
35.66	Peter Powell 3-Foot Nylon	2	4	3.0	3.3	3.6	3.3	4.0	4.3	4.3	2.3	2.6	2.3	2.6	2.3	4.0	8 to 26
LARGE KITES																	
39.92	Flexifoil 6-Foot Stacker	12	8	3.9	4.0	4.5	3.4	2.5	3.4	3.8	4.0	4.0	4.0	3.2	2.7	4.0	8 to 24
35.66	Top of the Line Spinoff	2	8	2.3	2.6	4.0	3.3	3.6	3.3	3.6	4.0	3.6	3.0	3.0	3.3	3.3	5 to 29

TOP TEN SINGLE STUNTERS

- | | | |
|---------------------------------|------------------------------------|------------------------------------|
| 1. Action Kites: Fire Dart | 5. Turning Point: Windjammer (tie) | 7. Top of the Line: SpinOff UL |
| 2. Hyperkites: Starcruiser | 6. Action Kites: NoNaMe | 8. Flexifoil: Stacker-6 |
| 3. Top of the Line: SpinOff | | 9. L'Atelier du Vent: Spyro-Jet UL |
| 4. L'Atelier du Vent: Spyro-Jet | | 10. Top of the Line: Hawaiian Team |

THE PANEL

George Bloom
 Ray Brandes
 Lorna & Dan Buxton
 Roger Chewning
 Ed Davis
 Duane Deardorff
 Eric Forsberg
 David Gomberg
 Susan Gomberg
 Bill Goodwin
 Aaron Harris
 Kelley Johnson
 Brian Keating
 Andy King
 Rick Kligman
 Bill Kocher
 Tom Kowalchuk
 Ralph Larson
 Don Lary
 Ben Lentz
 Martin Lester
 Don McCasland
 Jim Miller
 Richard Peck
 Hoy Quan
 Toby Schlick
 Larry Schultz
 Dave Town
 Bill Werme
 Roy Willson
 Ken Wright
 Rod Yarger
 Karin Zander

UNREVIEWED STUNTERS

A & K Kites: Alpha Stunt, Hebridean Ripoff
 A-Roar-A Kites: Lady, Swallow, TriDart
 Above It All: Squirrel, Super Squirrel, Tempest
 Action Kites: Action 4.5, Combo, Phoenix 20
 Aereal Endeavors: Laser
 Aerial Kites: Sky Lark, Sky Rider, Sky Weaver
 Avenger Kites: Peregrine
 Banshee Kites: Chikara, Raysoar, S.T.O.S.
 Crowell's Sail Loft: Accelerator
 Crystal Kite Company: Freebird, Sunbird
 Cyborg Kites: Cyborg Stacker
 Dan Wheeler Kites: Mustang
 Dave Colbert Kites: Dipper
 Dimension Four: Manta, Scamper
 Drachenladen: Taifun Speed, Taifun Turbo
 Dunford Flying Machine: 100, 200, Joker, Stingray
 Dyna Kite: Flightmaster, Graduate, Stuntmaster, Trainmaster
 Flying Things: Delta Stunter
 Force 10 Kites: Force 10
 Frisbee Company: Skite
 Frontier Kite Company: Frontier 1, 2, 3
 Gayla: Acrobat, AeroSports, Stuntmaster, Thunder Hawk, Tri Star
 Go Fly A Kite: Aero Stunter, Black Widow
 Great American Kite Company: Screamer
 Greens of Burnley: 208 Stunter, Jet Stream
 Hi-Flier: Command Performer
 Hyperkites: Starmaster
 Jet Kite: Boomer
 Jones Airfoils: Mirage
 Mackey's Trade Winds: Fokker
 Mariah: Delta Stunt
 Peter Powell: Skyraker
 Quicksilver: 25-foot Dragon, 45-foot Dragon
 Renegade Kites: Renegade I
 Revolution Kites: Revolution I
 Skyborne: Sunbird, Tunnel Wing, Zeta Wing
 Skycycle: Skycycle Rotor
 Sky Delight: Galemaster
 Skyland Kites: Spinnerette
 Skynasaur: Aerobat PL, Progressive Train
 Sparless Stunters: Quadraflex, Sky Bandit
 Spectra Star: Hornet, Wingmaster
 Spectrum Flight: Spectrum Dart
 Stratton Engineering: L.A. Gridlock
 Tim Benson: Scorcher, Super Scorcher
 Top of the Line: ¼-Hawaiian, ¾-SpinOff
 Trucs: Alpha, Delta, Djinn, Stingray, Turbo, Znap
 Turning Point: Hurricane, Windjammer HA
 Vertical Visuals: Firefly
 Victoria: Hawk
 Voilerie Paimpol-Voiles: Jet, Looping, Rafale, Voltigeur
 Wind Walker: Wasp
 Windancer Airlines: Hurricane, Sea Breeze, Windy Hill
 Worlds Apart: ZigZag

Some of the kites in the above list were reviewed, but by *only one pilot*; therefore, they were excluded from the final tabulation. Next time, we want to cover more kites. Stunt kite manufacturers can help by fully informing *Kite Lines* about their products. Also, objective, experienced stunt kite fliers are invited to join the panel. Write to us at *Kite Lines*, P.O. Box 466, Randallstown, MD 21133-0466, USA. Or telephone 301/922-1212.

Sky Scrapers



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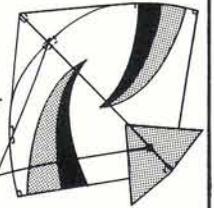
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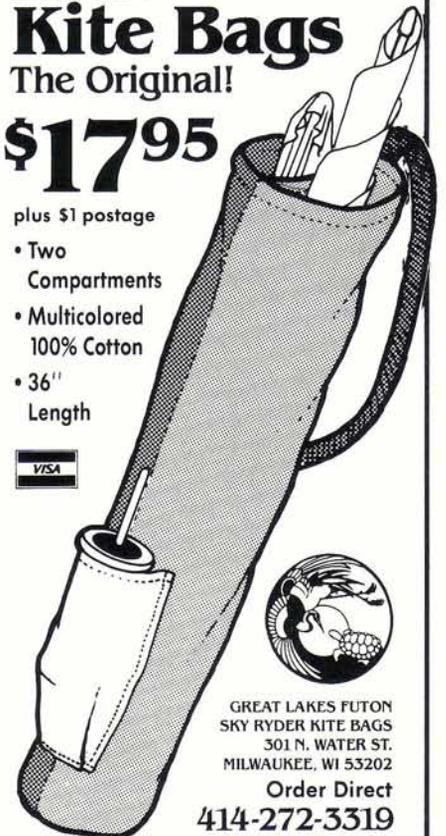
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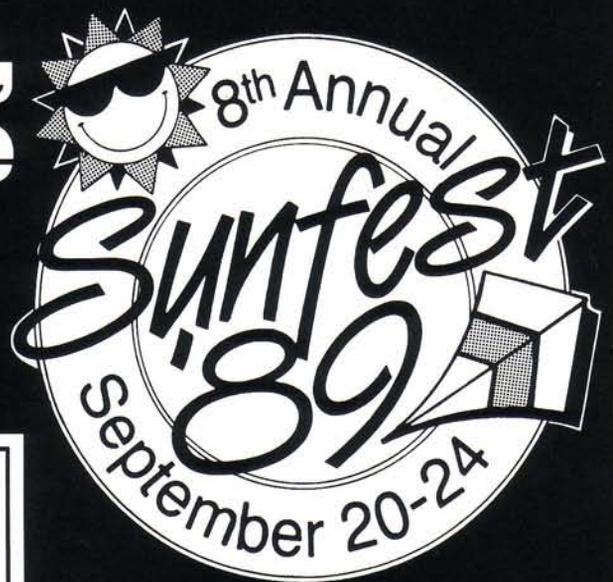
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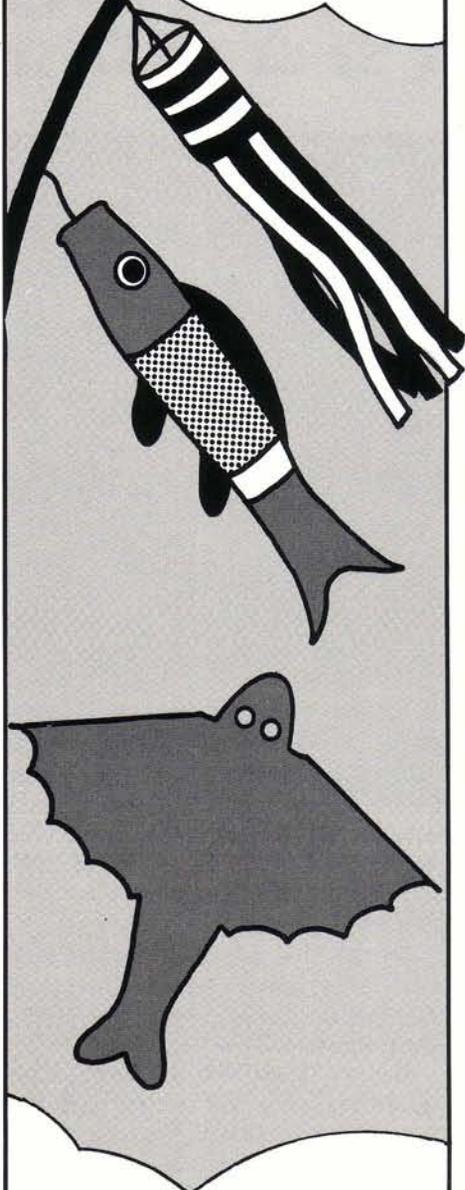
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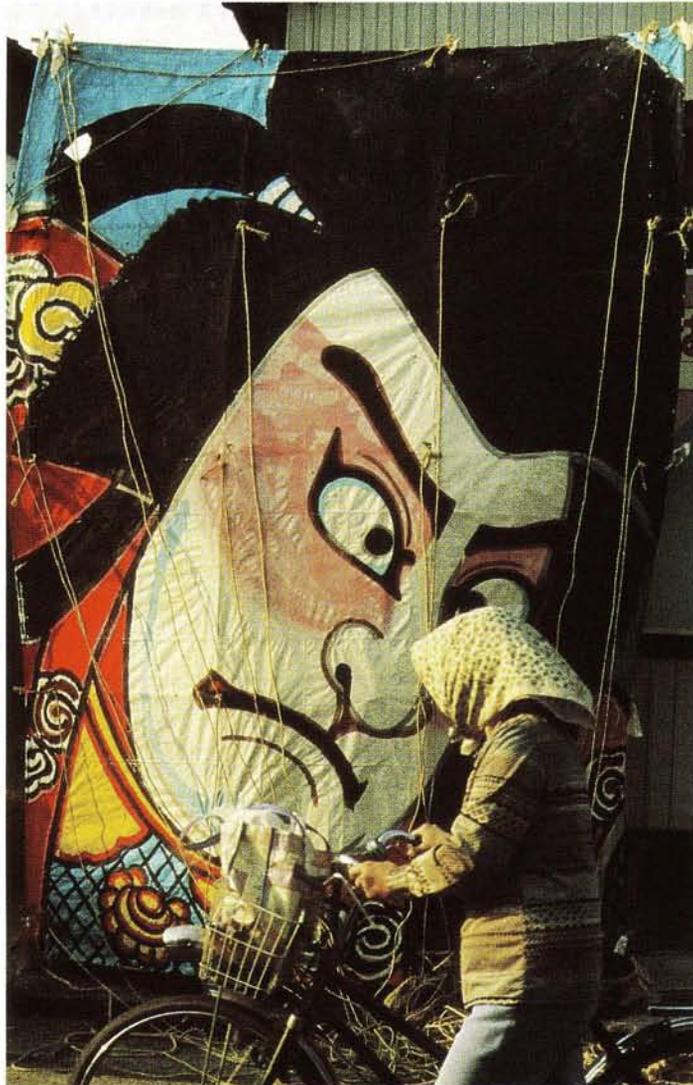
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The Kite Capitals



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Left, a bicyclist passes a kite in Shirone. Below, a dragon head parades in Weifang. Right, citizens of Sanjo gather for rokkaku flying.



Simon Freidin

(Yolen, the late founder of the International Kitefliers Association, was noted for the whimsy and bombast of his press releases.) When the 1988 date came up, we postponed the decision until 1989, allowing the claims to simmer and ripen appropriately.

By the final date, we had received 13 solid claims, enough to make a horse race. All the documents were entertaining; some were impressive.

But we knew that to weigh apples against oranges would test the wisdom of Solomon. We hesitated. We squirmed. We agonized. Finally we tackled the dirty job that somebody had to do.

Soon the papers piled up as we created weightings for the factors, two cross-reference charts, a set of five rating scales and a full scoring sheet for each claiming city. Dozens of facts were researched about such things as weather and population. Midnight calculator batteries were burned. Yet for all our efforts, we were unable to obtain comprehensive, consistent or "pure" numbers (though we have it on good authority that numbers in the real world are slippery critters). Still, they are interesting to chase, however dubious their meaning, so we chased them.

The qualitative factors were no less troubling. Although openly subjective, they were not arrived at capriciously. Many slight differences were weighed. Midnight brain cells were burned. Again,

Dateline: February 25, 1989.

Lincoln City, Oregon started the whole escapade. In September 1986 the town laid claim to the title "Kite Capital of the World" and challenged others to counterclaim.

Of course, other cities already *had*, namely Ocean City, Maryland (unofficially in 1976 and officially in 1978) and then Atlantic City, New Jersey in about 1985. But Lincoln City didn't give a hoot about them or anyone else.

Kite Lines was asked to advise. We scoffed at the idea in the beginning. But, darn it, we couldn't keep ourselves from *thinking* about it. How might such a crazy thing be judged, anyhow? Before

we knew it, we had written a couple of lists, of the traits to be considered (some quantitative, some qualitative) and of potential claimants to the title (about 28 in the United States and about 20 outside the country). With that done, we realized it would be only fair to inform eligible cities and invite them to counterclaim, rather than let Lincoln City take the title by default.

And where would they send their claims? Well . . . hmmm . . . to *Kite Lines*. (Just what we needed, another "extra" activity.) We agreed to call a knowledgeable and impartial committee to decide and announce the results on February 25, 1988 or 1989, on Will Yolen's birthday.

of the World

*A study in Vanity,
Hyperbole, Ambiguity
and other kite-lifting Hot Air.
By the staff of Kite Lines*



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KITE CAPITAL OF THE WORLD SCORES

Because of the imprecise nature of the data, a difference of up to three points is considered insignificant. Therefore, close-scoring groups are regarded as tied.

		Quantitative Points	Qualitative Points	Total Points
1	Shirone, Niigata, Japan	37.6	33.0	70.6
	Sanjo, Niigata, Japan	38.6	31.0	69.6
	Weifang, Shandong, China	39.4	29.0	68.4
2	Lincoln City, Oregon, USA	28.4	34.0	62.4
	Chicago, Illinois, USA	30.2	30.0	60.2
	Ocean City, Maryland, USA	26.0	33.0	59.0
3	Los Angeles, California, USA	29.8	27.0	56.8
	Long Beach, Washington, USA	23.2	32.0	55.2
4	Brussels, Belgium	19.2	33.0	52.2
5	Austin, Texas, USA	19.4	29.0	48.4
6	Vancouver, British Columbia, Canada	21.0	23.0	44.0
7	Bandon, Oregon, USA	14.2	22.0	36.2
8	Canberra, New South Wales, Australia	6.6	14.0	20.6

FAINT SOUNDS HEARD FROM

Bali, Indonesia
Kill Devil Hills, North Carolina, USA
Mackinaw City, Michigan, USA
Rome, Italy
San Francisco, California, USA
Seattle, Washington, USA

FUTURE EXPECTED CONTENDERS

Ahmedabad, India
Bangkok, Thailand
Dieppe, France
Hamamatsu, Shizuoka, Japan
Scheveningen, Netherlands
Washington, D.C., USA

KITE CAPITAL OF THE WORLD SCORING WEIGHTS

Quantitative

Kite/Days per year as raw number	10%
Kite/Days as percent of population	10%
Kitefliers in metropolitan area	10%
Festivals and flies	2%
Longevity score	10%
Kite shops and manufacturers score	2%
Clubs score	2%
Weather score	4%
Subtotal,	50%

Qualitative

Importance and leadership	20%
Promotional value	10%
Historic value	10%
Aesthetic factors	10%
Subtotal,	50%

TOTAL, 100%

in the end we cannot say that our results are meaningful, only that we gave the matters thought.

In truth (and let us say this loud and clear), we do not now and never have believed that any one city can be the Kite Capital of the World. One city cannot be exalted above another.

We're happy to award a variety of other titles, however, as follows:

Continued . . .



*The
Weightiest Entry
Award*



TO LONG BEACH, WASHINGTON, USA, for its brass-hinged, 26-by-31-inch scrapbook made of quarter-inch plywood and filled with 54 pages of clippings, photos, documents, letters, video tapes and a t-shirt. Solid reading was inside, too: papers attesting to world records in four categories. Both the City of Long Beach and the state's Governor, Booth Gardner, proclaimed that Long Beach is "the one, the only, original kite flying capital of the world."

Most touching, however, was a section of four pages in memory of Steve Edeiken. Clippings told the terrible story of his death in Long Beach in 1983 when he fell from the sky after tangling in the shroud lines of the biggest parafoil ever made. It says something about this town that its international festival has continued since the tragedy and that the organizers fearlessly included the Steve Edeiken story in their scrapbook.

*The
Grandiloquence
Award*



TO AUSTIN, TEXAS, USA, for its long legal document listing no less than 23 "whereas" clauses. With boastful Texan character, the paper refutes Lincoln City's claim that all the wind originates on the 45th parallel, saying that it comes from the Panhandle of Texas ("easily confirmed by asking anyone from Lubbock or Amarillo"), but "in the unlikely event that nature would fail to provide adequate winds, the Texas Legislature stands as a ready and on-the-spot supplement." The paper carefully answers every particular in the kite capital challenge, but emphasizes the historic value of the Zilker Park Kite Contest, which has run continuously since 1929.

*The
Great American Novel
Award*



TO LINCOLN CITY, OREGON, USA, the little town that set the whole to-do in motion in the first place.

Lincoln City was championed by David Gomberg, who overheated his word processor on the longest (six pages) and puffiest letter submitted. Lincoln City has set two recognized world records—largest stunt kite and fastest stunt kite—both only recently surpassed by kites using the standards and techniques established in Lincoln City. In addition, the town claims Longest Kite Festival, running from Mothers Day in May to the end of September each year. Flying at the festival is the World's Largest Spinsock (15 x 150 feet). Lincoln City also claims most Kite/Nights per year (about 5,000). The town also names itself home base for the country's largest chain of kite shops. Further, Lincoln City is surely the capital of the concept of "square-foot hours," because nobody else has figured out how to keep equal documentation. (Hint: area of banners, flags, windsocks and Spinsocks count, by Lincoln City's lights.)

Finally, it may safely be said that Lincoln City is the undisputed Spinsock Capital of the World—maybe even the Squirm, Blurb and Tubelet Capital of the World.

*The
Haughtiest Entry
Award*



TO WEIFANG CITY, SHANDONG PROVINCE, PEOPLE'S REPUBLIC OF CHINA, for its letter containing no direct response at all to the title challenge (we obtained our facts about Weifang elsewhere), but only requesting that "noted personages from all parts of the world" come together to choose the Kite Capital of the World at the Weifang International Kite Festival.

*The
Windy City Hypothecation
Award*



TO CHICAGO, ILLINOIS, USA, as conjured up by Alonzo J. Hargus, III, who typed a 40-inch scroll of paper with densely packed claims, including: "The number of kitefliers in a city of over three million people can be arrived at by making a field head count of kitefliers on an average summer day . . . the average being 25 per acre. Therefore, if the Chicago Park District has 6,800 acres of parks, that would mean that [Chicago has] approximately 170,000 kitefliers . . . (Note: This figure does not include kitefliers not on the flying field, but home to make a new kite, which may account for another 30,000 kites.)"

*The
Modesty and Dignity
Award*



TO BRUSSELS, BELGIUM, for prefacing its claim as follows: "Our specific activities lead us to think it is a little short to pretend to such a title as Kite Capital of the World." However, the claimants managed to mention the accomplishments of the Kite Aerial Photography Worldwide Association and its bilingual journal, as well as the historic revivals (originating in Brussels) of the Spa, Belgium meet; the Labruguere, France centenary celebration; and the Berck-Plage, France event.

*The
Brevity-Is-the-Soul-of-Wit
Award*



TO VANCOUVER, BRITISH COLUMBIA, CANADA, which, in 39 well-chosen words, proved itself both imaginative and arrogant: "Kite Capital of the World? Never!"



*The
Most Elegant Entry
Award*



TO OCEAN CITY, MARYLAND, USA, for sending us not only a specially prepared scrapbook but also a kite video that is, in our opinion, the most beautiful of its kind in America. In addition, Ocean City issued more proclamations than any other contender. There were five in all, issued by the Chamber of Commerce; *The Beachcomber* newspaper; the current Mayor, Roland E. Powell; the late great Mayor, Harry W. Kelley (who probably was the first public official ever to declare any city the Kite Capital of the World); and, finally, the current Governor of Maryland, William Donald Schaefer.

Numerous clippings, many on the specific subject of Kite Capital of the World, attest to years of public relations impact. Bill Ochse of The Kite Loft is justifiably proud of the fact that four kite world records currently in effect were set on the beach in Ocean City.

*The
Most-Noise-from-Small-Body
Will Yolen Memorial
Award*



TO BANDON, OREGON, USA, which recently challenged Lincoln City, Oregon in the press. The news story was picked up all over the Pacific Northwest and as far away as New York. Frank and Janet McNew and the Bandon Kite Freaks gathered over 300 signatures attesting to Bandon's hitherto hidden advantages of space, wind and friendly enthusiasts. Of particular interest was a copy of the Wind Energy Planning Study attached to the claim. It showed Oregon's highest wind rating on a year-round basis belongs to the Bandon coastal area, verified by *kite* wind velocity measurements, at an overall average of 14.03 mph.

*The
Grasping-at-Straws
Award*



TO CANBERRA, NEW SOUTH WALES, AUSTRALIA, for sending us a used, flattened, waxy milk carton illustrated with Lawrence Hargrave and his kites. "How many other cities put kites on their milk cartons?" asked Geoff Payne in his letter of claim. He also counted "14 persons named KITE in the phone book. I would like to know how many Tokyo or Bangkok or some of those other cities have."

*The
Palmer Method
Award*



TO LOS ANGELES, CALIFORNIA, USA, and Gloria Lugo for writing six legal-size sheets of breathless prose *by hand*. The greatest claim of Los Angeles is surely that it has more kite businesses—at least 45—than any other city in the world. Moreover, the blessings of constant sunshine have made kiteflying part of the LA lifestyle.

*The
Obsessive/Compulsive Kiting
or Tako Kichi
Award*



TO SHIRONE, NIIGATA PREFECTURE, JAPAN, for its intensive six-day frenzy that consumes 9,800 people out of the 20,000 population. Shirone earns the highest score in Kite/Days per year as a percent of the population. At the Giant Kite Battle each year in June, village teams tangle their kite lines in a tug of war across a river. Hundreds of kites die in the battle. (See "The Shirone Giant Kite Battle" in the Spring 1984 issue of *Kite Lines*.)

*The
Most Surprising Entry
Award*



TO SANJO CITY, NIIGATA PREFECTURE, JAPAN, for such things as a "fully equipped Kiteflying Park on the Ikarashi River," a kite nursery rhyme, two kite ballads, kite cookies, kite wafers and even a kite liquor, *Koshi-no Rokkaku*.

This city has been flying kites for 800 years. In the beginning, the people flew on their Kiteflying Hill in place of lighting signal fires, and they developed their collapsible, or rollable, kite "so as to carry it easily to the Hill." Then, around the year 1650, they initiated kite fighting every June, an activity that today absorbs approximately 20,000 people out of an 87,000 population. We believe that in the annals of kiting the luster of Sanjo earns it the permanent title as undisputed Rokkaku Kite Capital of the World.

When all the evaluating was done, the Committee to Decide the Kite Capital of the World agreed that the scoring system used was rather inexact and the data collected was incomplete. Though the tabulators used as much care as possible, the system was only a first experience. A better scoring method is evolving and will be used in the future to name a list of the top contenders for Kite Capital of the World. As cities refine their efforts to meet the criteria, we should see new positions and new names in the line-up, as well as more and better kiteflying everywhere.

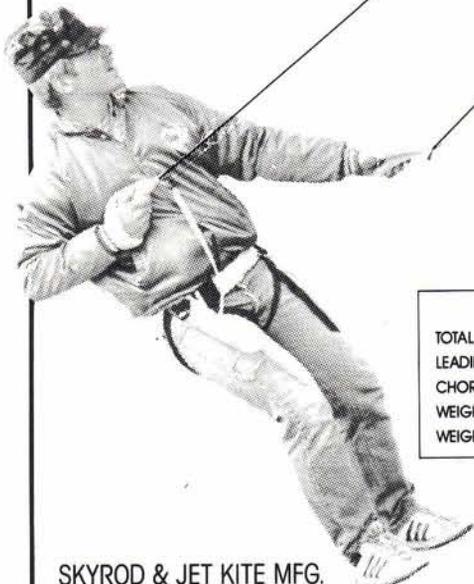
Readers of *Kite Lines* are invited to comment on the characteristics and entries highlighted this year. Potential claiming cities are encouraged to ask for the new and improved Claim Form for Kite Capital of the World. It specifies the data and characteristics that the committee will review for the next list.

Committee members who served for 1989 include Jon Burkhardt, Pete Ianuzzi, Rick Kinnaird, Ted Manekin, Curt Marshall, Bob Price, Bill Rutiser and the *Kite Lines* staff. ◇

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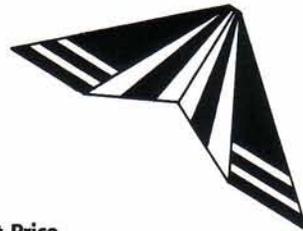
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More Kite Records in the GBR!

A Dialogue with Guinness

Since 1973, I have been corresponding with the *Guinness Book of Records*, first in my capacity as the Executive Secretary of the Maryland Kite Society, then as Editor of *Kite Lines*. About 55 letters have gone back and forth over this time, not to mention the occasional phone call or telegram. Many of my letters were thick, three or more pages of single-spaced typing, accompanied by copies of the magazine.

In the beginning I was deferential to the great Guinness, but as time went on I became more assertive. I had found that, though our relations with Guinness were always very cordial, the books when finally published were often a disappointment. The number of kite records recognized was limited to begin with and the records given were typically confused.*

We were especially distressed when, in 1987, Guinness took what had been the *Longest Kite*—the Thai-style cobra flown by the Dutch team of Herman van den Broek and Jan Pieter Kuil in 1984—and recognized it as the *Largest*, based on its total area, including tail. Of course, it has never been possible for kitefliers to define accurately the proportion of lift to drag in a kite's tail, whether or not the tail is an intrinsic part of the kite, as it is with a cobra. To claim that a tail represents lifting area is improper.

We were discouraged. After all, kiteflying represents only about .075 percent of the total Guinness book. How could the editors care very much about—let alone know very much about—kites?

Then one day in June 1988 we received a letter from Guinness asking our opinion on a new claim for *Largest Kite* by the Bobokiteam, led by Roberto Bocchini of Perugia, Italy. Incredibly, the people at Guinness, instead of counting the cells of the centipede in question and multiplying them by the area of each cell, actually multiplied the length of the centipede by the width of its outriggers to arrive at a figure for the total area! This gigantic blunder triggered a fast three-page reply

*An amusing history of the Guinness listings with a chart of annual vacillations was published in "Tight Lines," newsletter of the Greater Delaware Valley Kite Society, March 1989, \$6.00 for six issues, P.O. Box 888, Newfield, NJ 08344. It also appears in the latest printings of *The Bearly-Made-It List of Little-Known World Kiteflying Records*, \$20 from the same address.

THE RECOMMENDED

13

suggested Guinness categories
with current records

1. Altitude by Train of Kites:
31,955 feet (9,740 meters)
2. Largest Kite:
5,952 square feet (553 square meters)
3. Duration of Flight:
180 hours 17 minutes
4. Most Kites Flown on One Line:
2,233
5. Altitude by a Single Kite:
12,471 feet (3,801 meters)
6. Most Stunt Kites Maneuvered in Train
253
7. Most Consecutive Days of Individual
Kiteflying: 366
8. Longest Kite (cobra type):
2,313 feet (705 meters)
9. Fastest Kite:
114 mph (184 kph)
10. Most Figure-Eights Performed by a
Stunt Kite in One Hour: 2,911
11. Largest Stunt Kite:
460.37 square feet (43 square meters)
12. Longest Kite Tail:
5,560 feet (1,695 meters)
13. Greatest Calculated Lift by a Single
Kite: 728 pounds (331 kilograms)

Of course, the above categories are only a start. We have many more slots ready to suggest for the next go-round. Readers, your opinions will help: please write to us.

from *Kite Lines* and our correspondence with Guinness really began to heat up.

This time we were not timid. We boldly outlined a list of 13 kite records that we recommended for inclusion in the Guinness book. We decided it would be worthwhile to step up the pace of our letters, to pressure the editors for more space for kiting achievements, which have expanded so much recently, especially for stunt kites.

Joy! In October 1988 we received word that Guinness agreed with our standards on existing records. Since this agreement required them to withdraw their previous entries, they planned to delete erroneous records from the 1990 edition and then reintroduce the sus-

pending categories, with corrected entries, in 1991. In the meantime, for 1990, they would print the two "good" standing records (for Altitude by Train of Kites and Duration) plus *four others*. What a break! Four *new* categories in Guinness! We were warned that these new categories might be dropped in 1991 if the book's space could not be expanded, which is still uncertain. Nevertheless, this was a significant wedge in the impregnable Guinness fortress. We were asked to suggest four categories they might add, based on importance and interest, and then to supply detailed rules and regulations for each record.

The letter that followed took more time and thought than any we'd ever written to Guinness. The whole *Kite Lines* staff compared thoughts for recommendations to the transition list. We ended up giving a fresh selection of 13 records in our order of preference.

Guinness replied in the form of draft text for 1990. The five records (not six) chosen for that edition will be: Longest Kite; Altitude by Train of Kites; Fastest Speed Attained by a Kite; Greatest Lift by a Single Kite; and Longest Duration of Flight. Though not our top choices, the five records picked were a definite improvement. We replied with praise and thanksgiving and returned the rules applicable to the categories named.

In response, Guinness sent us for proofreading their proposed rules packages that they plan to provide to future claimants in each category.

For 1991, Guinness will restore the categories for Altitude by Single Kite; Largest Kite; and Most Kites on One Line. We *hope* they will keep the others they have adopted "temporarily" for 1990. They will be influenced not only by letters from *Kite Lines*, but by evidence of "widespread competitiveness" in these arenas. Kiteers, this is our year to break kite world records—*any* kite world records. Even the failures can help establish the climate that will nurture future accomplishment.

Meantime, we're still working to persuade Guinness to add more kite categories, particularly the unselected one at the *head* of our suggestion list: Most Stunt Kites Maneuvered in Train.

—Valerie Govig

For the Record continues . . .

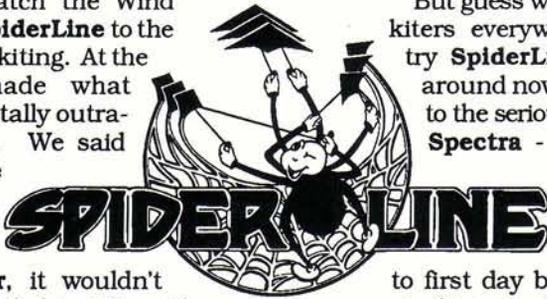
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Since we introduced SpiderLine to kiteflyers in the summer of 1986, Catch the Wind's Kite Team has set the following stunt kite records:

1. Most consecutive spins in one direction without losing control: 250, by Ron Brown, using a Hawaiian Spin-Off and 150-lb SpiderLine. Pattaya International Kite Festival, Thailand, April 1987. (See *Kite Lines*, V.6, #4, p. 59.)
2. World's Largest stunt kite: 330 sq. ft. parafoil, using 300-lb SpiderLine, by John Waters. Lincoln City, OR, Feb. 5, 1987. (See *Kite Lines*, V.6 #3, p.77.)
3. World's fastest kite: 108 mph, by Troy Vickstrom, using a 10' Flexifoil and 300-lb. SpiderLine. Lincoln City, OR, May 16, 1987. (See *Kite Lines*, V.6, #4, p.67.)

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Fastest Flexi

Tony Wolfenden supplied us with the following information: It was Sunday afternoon, October 16, 1988 at St. Kilda Marina, Melbourne, Australia. Gale force winds were blowing 50 knots (57 mph), with gusts up to 80 knots (92 mph).

In this ridiculous wind, Neil Taylor, Dennis Dunnel and Tony Wolfenden went out to fly Flexifoils. They were accompanied by Ray Wood of Invetech Operations who had a radar gun—recently calibrated and known to be accurate.

Tony's six-foot Flexifoil was the only kite rigged for radar viewing. It was standard except for a stiffened spar: the center hollow section had been filled with epoxy and a solid fiberglass (GRP) rod. The spar was then double wrapped with aluminum foil and slid back inside the leading edge pocket of the kite.

The 150-foot flying lines were brand new 200-pound-test braided Kevlar.

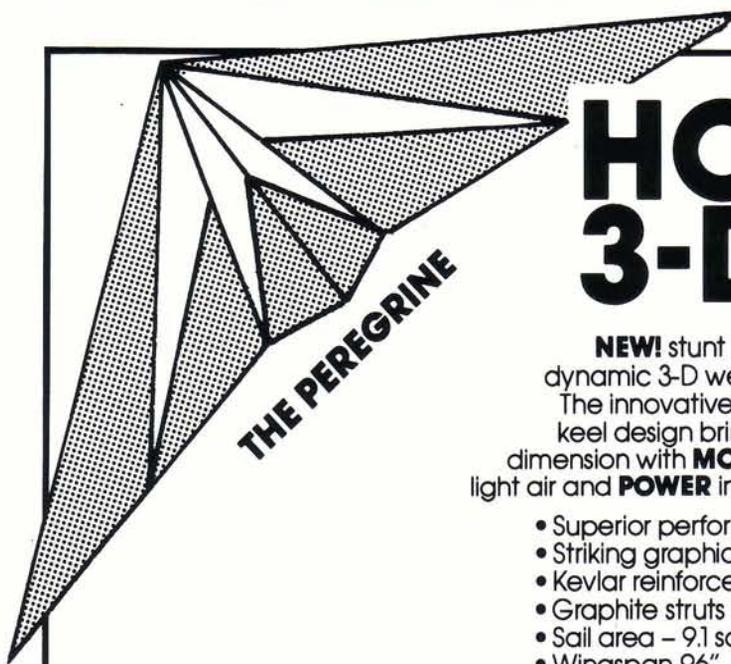
After a number of test flights showed remarkably consistent readings on the radar gun, the highest speed of the day—

184 kph (114 mph)—was achieved just before both flying lines snapped.

The flight broke the record for fastest kite set by Troy Vickstrom on May 16, 1987 with a ten-foot Flexifoil (174 kph, 108 mph) on the beach at Lincoln City, Oregon, USA (see *Kite Lines, Summer-Fall 1987, page 67*).

In his letter to *Kite Lines*, Wolfenden wrote: "What is interesting is that, in spite of the much stronger wind than that reported from Lincoln City, we were only able to achieve another [six] miles per hour. Next time we will try a ten-foot Flexi and stronger line."

Ed. Note: Tony and his friends have demonstrated that higher wind speeds do not automatically produce higher kite speeds. For each kite, there is an optimum wind speed, above which the kite may become distorted, resulting in degraded performance. Also, differences in kite size, weight, line length and diameter, and/or individual flier technique can account for varying results. ♦



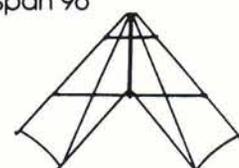
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Empty Spaces in the Sky

Harvey "Javier" Wood

Born in Canada in 1905, Harvey James William Wood Scott was a man of many talents and interests. We only recently learned of his death on May 30, 1987 in Guzman, Mexico.

After studying drafting and archaeology, Harvey joined the Ford Motor Company in the United States at the age of 28. He was one of Ford's principal draftsmen and designers, and he eventually became a U.S. citizen.

Harvey was strongly attracted to the culture of Mexico and he made many trips to that country. At the end of the 1950s, he retired to Mexico. In 1960, he married Rosa Maria Corona Quintero and they had three children.

In 1979, Javier—as he became known in Mexico—settled in the city of Guzman and started the hobby of cartography. He was fascinated by the ancient family estates in Mexico, and he set out to compile a map and photographic register of them. Before he died, he was able to visit, investigate, photograph and map 270 historic estates.

All of this time, Javier shared his love of kites with the people of Mexico. He conducted and organized numerous kite workshops and events. He was known and respected for his multicolored creations.

Javier's last wish was to be cremated and have his ashes scattered over the land he loved, the warm sunny land where he flew his kites. —L.M.C.

Don Smith

Donald Shirley Smith of Troy, Michigan died November 18, 1988 at the age of 81.

A retired insurance agent, his love of kites grew after he attended the 1982 AKA convention in Detroit, Michigan.

Don's specialty was bird kites, starting with seagulls taught to him by Bill Kocher of Lutherville, Maryland. Later, Don designed patterns for snow greese and eagles. Each kite was hand painted and so a little different from the others. Every kite was numbered and signed. No kite was packaged until it flew to Don's satisfaction.

He loved going to local Scout groups, supplying them with kites and teaching them proper flying procedures.

Don was making and flying kites up to one month before he died. He is survived by his wife Sarah Jane, two children and six grandchildren. —S.J.S.



Harry Sauls with his gas-powered winch and kite wagon.

Harry C. Sauls

The designer of the Naval Barrage Kite, Harry C. Sauls, died of a heart attack on December 2, 1988, at the age of 90 in North Miami Beach, Florida.

He was born and grew up in a large family in North Carolina. His formal education was brief, but his natural mechanical abilities were considerable.

After his discharge from the Marines in 1920, he raised poultry in California and hung around the car races in Los Angeles, where balloons carried advertising banners. He noticed they would go down in heavy winds, just when the crowds arrived, and decided the cure was a kite. "Having built kites all my life since a kid, I decided to give it a try." He based his design on examples seen at the Smithsonian. After much work and many mistakes, he developed his methods and began advertising for Earl Carroll's Follies, Silver Foam Soap, 7-Up and others. He employed 16 people and 7 sewing machines.

The Sauls kite underwent extensive testing by the Navy before it was adopted in 1941 to fly from ships on cables to ward off enemy dive bombers. The Sauls Vangrow Company was formed in Dayton, Ohio to manufacture the kites. The Navy ordered 3,300 of them at a total cost of \$543,000. Production ran from February 1943 to January 1945. The Sauls VKS-1 was 10' x 14' x 27" and used 24 yards of 36" waterproofed cotton over spruce spars and weighed 21 pounds.

In 1942 he married Edna Mae White and in 1946 they moved to Florida, where Harry helped engineers survey the North Miami Beach area. Harry went into building and real estate. He also kept tinkering with kites, and became one of the first members of AKA in 1964. He was active in the Gold Coast Chapter of the AKA along with Jack Aymar, Dom Jalbert, Odell Miller and Walter Scott. He was featured on the cover of *Kite Tales* (predecessor of *Kite Lines*) for two successive issues in 1966.

In 1983, the Maryland Kite Society awarded Sauls their Honorary Order of the Kite Award for his Na-

val Barrage Kite, "thought to be one of the most important military uses of a kite."

Notes from conversations then show both the achievements and the modesty of Harry Sauls, who said, "I've never gone into kites scientifically. I just know I can build a good kite and I do it and that's it."

Sauls is survived by his wife and by the trees and flowers of Harry and Edna Mae Sauls Park a block from his home. —V.G.

Tony the Kite Man

Anthony J. Ziegler, known to everyone in Monroe, Michigan as Tony the Kite Man, died January 23, 1989 at the age of 82.

For most of his life, Tony devoted himself to providing wholesome activities for the children of his home town. He filled his own backyard with playground equipment that he built. He also constructed a playground for the local Community Center and arranged for traveling teen dances at various civic parks. Tony earned his Kite Man nickname by entertaining at picnics, parties or just in his own backyard with his kites.

Tony favored the three-stick "barn-door" kite and his trademark was a giant one made for the City of Monroe Recreation Department. His largest was 16 feet high and 12 feet wide. To handle his kites, Tony built his own reels, powered winches and a trailer to haul it all. He also equipped a doll ("Dolly") with a parachute and dropped her from his kite line by a trigger



Tony Ziegler and his trademark barn-door kite.

Monroe County Historical Commission Archives

mechanism. The kids would stream out across the field when the parachute opened and Dolly floated to earth. Tony's work was praised in the local press and in *Kite Tales* in its second issue, January 1965, and again in its Winter 1968 edition.

In 1988, Tony and his wife Margaret celebrated their 60th anniversary. The couple lived all their married life in Monroe, where they raised five children of their own and two grandsons. In all they had 23 grandchildren, 32 great-grandchildren and two great-great-grandchildren.—L.M.C.

Jack Van Gilder

When the news came from Seattle that Jack Van Gilder, after a long battle with cancer, had died on April 15, 1989 (his 67th birthday), it was not unexpected; but it was hard to believe, because Jack's presence was so strong in our lives.

I had known Jack from the early 70s when the Washington Kitefliers Association was just forming under the co-leadership of Jack and Dave Checkley. Jack would dedicate much of his life to kiting for the next 18 years. He filled many posts: secretary - treasurer of the WKA; chair of many local kite festivals, exhibits and workshops; president of the AKA from 1981-83; organizer of the Fort Worden kite conference since its start in 1984—not to mention the work he did for his church and community.

Jack was a great student of the delta and based many of his colorful models on native Alaskan totem motifs. He was also known for his magnificent 100-delta trains.

He took care to pass along his experience and enthusiasm. He was a teacher to anyone who asked. The bimonthly WKA newsletter became one of the best of its kind, put out by Jack until his last year. Its pages were always full, but never contained complaints about lack of contributions or the time taken away from Jack's work as an insurance agent.

Jack helped with several kite publications, but he honored *Kite Lines* with a

rich legacy. Included were articles on his kite train, gull delta and handhold reel; a profile of Louise Crowley; a photo sequence documenting the bridling of a giant Japanese (Shirone) kite; proportions for the classic delta; how to make 2,700 Sisson sleds in three days; a remembrance of Dave Checkley; and this issue's article on arch trains (see page 25).

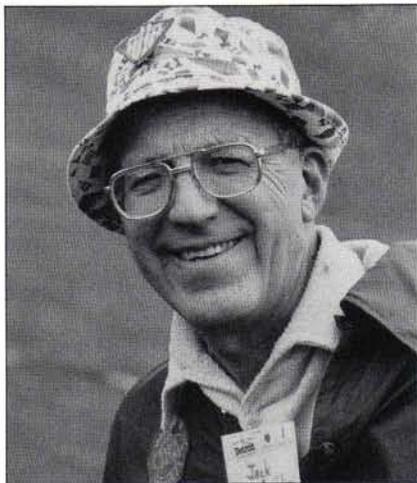
Jack was an observant writer and good cameraman. His pictures of Louise Crowley, taken to order and printed in his own darkroom, were outstanding ("arty," he called them).

Jack never forgot the fun of kites: he loved finding and wearing one of the few kite-print hats in existence; he loved

telling the story of the seagulls attacking his eagle kite off the back of the Puget Sound ferry. He was "cheerful, positive and devout in his faith . . . an inspiration for kitefliers everywhere," as expressed in the WKA's nomination of Jack for the Steve Edeiken memorial award, which he received in 1988.

Two weeks before his death, Jack stood up in church and told everyone goodbye. It was appropriate for someone who cared, listened, wrote letters and made phone calls all his life with endless empathy and bounce.

Jack leaves his wife Viola, four children, three grandchildren—and a world of friends. —V.G.



Jack Van Gilder in Detroit, Michigan in 1982.

Valentine Deale

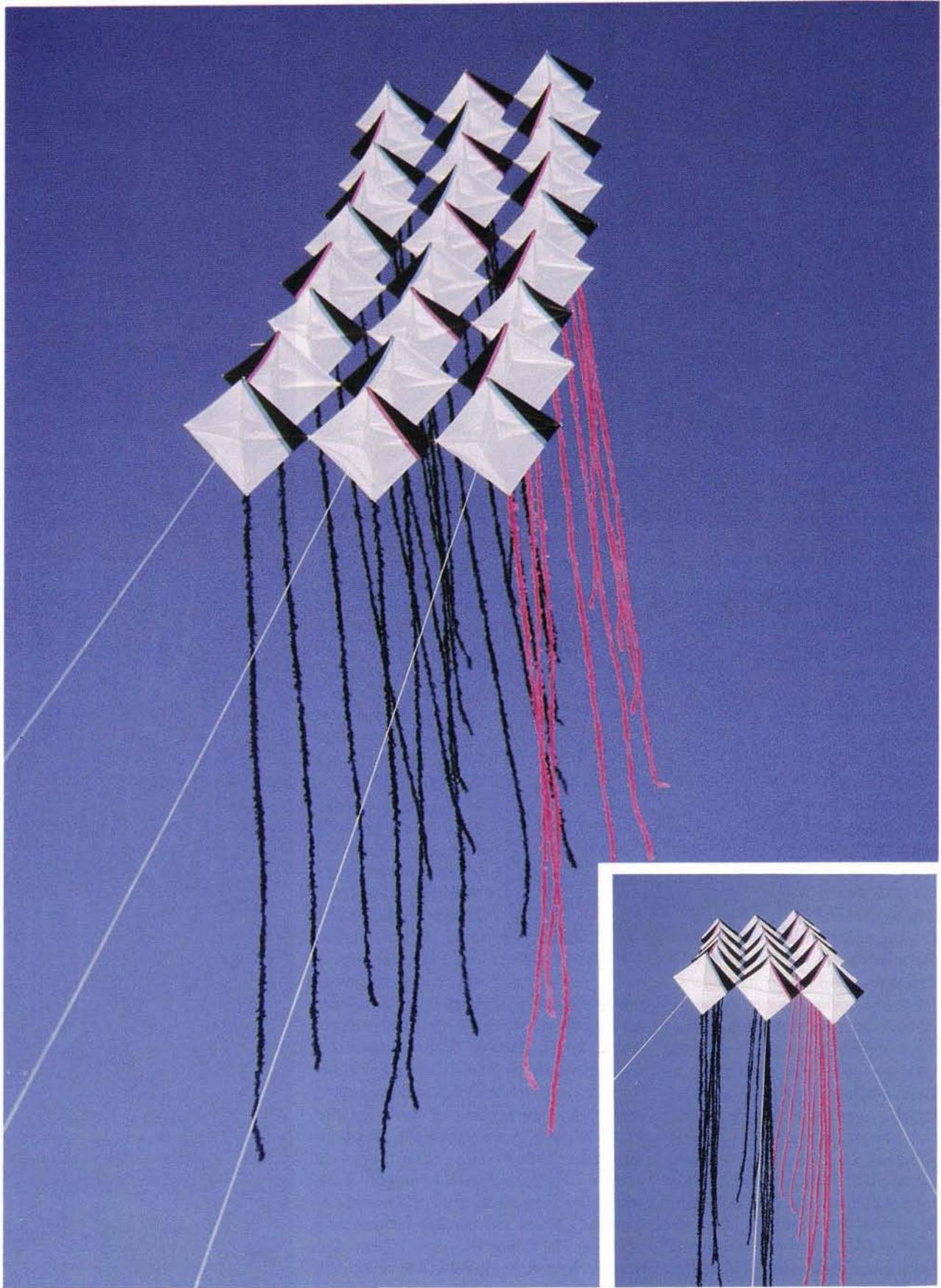
We've chosen our associates carefully. Since our beginnings in the late 1970s, companies like Günther, Shanti, Quicksilver and Stratton have been with us. As kiting has grown, so have we, adding prestigious friends like Professor Waldof, Controvento, Flexifoil International of Holland, Martin Lester, Peter Lynn, Windy Kites, Vertical Visuals, Wycombe, Trlby.

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Number Fourteen in a Series

JØRGEN MØLLER HANSEN of Aarhus, Denmark started building kites as a child. As he grew up, his kitemaking was interrupted by various things, including school. From 1977 to 1981, he studied at the Kolding School of Art Craft. He is now a graphic designer.

After ending his education at the Art Craft School, Jørgen started making kites again. In the last four years, he has concentrated more on the graphics of his kites. Jørgen says that making exciting graphics in the sky is the most important thing for him.

In 1984, Jørgen and his friend Niels Flensborg founded the *Midtbyens Drageclub Aarhus* (Central Aarhus Kite Club). Jørgen told *Kite Lines* that "we are not organized in the 'normal' way of clubs. Our organization seems to be a little anarchistic, but we succeed in getting contact with kites in Denmark and other countries in Europe."

In December 1987, Jørgen began planning and sketching his "Triple Malay Stack." During February and March of 1988, he test flew several configurations. The actual construction lasted through April, May and June 1988. The Stack's first flight was on the island of Fanø, off the coast of Denmark.

Each kite in the Stack is an individual Malay measuring 50 x 50 centimeters (20 x 20 inches). The fabric is ripstop nylon, appliqued in a bold asymmetric pattern.

The spars are wood ("fiberglass is too expensive," says Jørgen), two in each kite plus one long spar extending from the left kite to the right kite of each row.

A large horizontal spar out in front of the Stack helps keep everything in line, like the "expandable box or double bird train by Ohashi—same system." To land the Stack, "you have to stunt it down." A three-point bridle leads from this spar to the flying line.

There are 27 kites in the Stack, each with its own 15-meter (49-foot) tail. A single line connects each kite in column.

As a unit, the Stack is 2.25 meters (7.4 feet) wide and 15 meters (49.2 feet) long. The separation between each row is about 1.8 meters (about 6 feet).

"Launching," says Jørgen, "is a little bit difficult. All the kites are on the earth in the beginning; you start all the train at once—all in the same minute." Once in the air, the Stack flies "at a high angle—at least 75-80 degrees or more."

When not in the air, the Stack collapses "into a little package, yes. I can take it on my bicycle."

This *Kite Lines* series features a reader's kite picture on a whole page in full color in each issue. Yours could be the next one! What kind of kite photograph qualifies for this honor?

First, the kite must fly well. Supporting information must be included describing the kite's typical flight and giving its dimensions, materials and history.

Second, the kite must be beautiful. Agreed, beauty is in the sky of the beholder. This is an openly subjective criterion.

Third, the kite must show some quality of originality in either form, craftsmanship, color, decoration or use of attached elements. (No commercial kites, please!)

Fourth, the photograph (as a separate consideration from the kite in it) must be of high artistic and technical quality—sharp, well-framed, rich in color. For printing, we prefer 35mm or larger transparencies. We can also use color prints if they are 8" x 10" or larger. Tip: we favor vertical format over horizontal.

The photograph should be taken in one of two modes: as a close-up of the kite in the sky, the kite filling at least one-third of the film area; or as a background-inclusive shot, showing people, scenery, etc., behind the kite. In any case, the kite should be shown well, although not necessarily flying, as long as the supporting information establishes the kite's flyability. In fact, background features give a reference point and sometimes increased interest to a picture.

We suggest you take many pictures of the kite. Snap it in the sky, at festivals, morning, noon and night—even indoors on display. Discard any preconceptions of what a "correct" kite photograph should be. Then send us no more than *five* photographs of *one* kite at a time. To avoid risk of sending an original transparency or photograph, you may send a duplicate for review.

Ship in stiff protective packaging and enclose a self-addressed envelope with stamps or international reply coupons for return of your material—otherwise, we cannot guarantee its return.

Photographs submitted must be not previously published. After publication in *Kite Lines*, further rights revert to the photographer and kitemaker.

Kite Lines credits both kitemakers and photographers. A photographer may take pictures of a kite not his or her own, but in such case should ask the kitemaker's help in supplying information for the submission. *You* are invited to enter! You have nothing to lose but your obscurity. ◇

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KITE PATENTS: a one-line description, in list form, of every kite-related patent issued in the U.S.A. Information includes numbers, names and dates. More than 600 patents, about 30 pages. Available for \$50 from Ed Grauel, 799 Elmwood Terrace, Rochester, NY 14620.

USA/USSR "PEACE" KITES, from a limited edition of 100 made in 1985. Nylon and fiberglass, diamond-shaped, \$100 each. Sky Scrapers Kites, P.O. Box 11149, Denver, CO 80211.

STUNT KITES — Several popular styles. Like new. Priced to sell. Contact: Daniel Hamilton, 6107 Odana Road, Madison, WI 53719.

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will be published soon!

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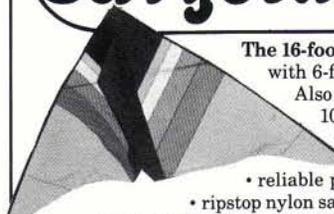
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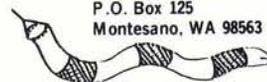
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Simon Freidin

A kreasi baru (new creation) kite awaits flight at the Bali International Kite Festival in 1988.

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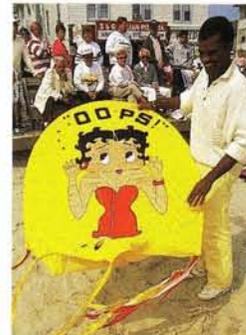


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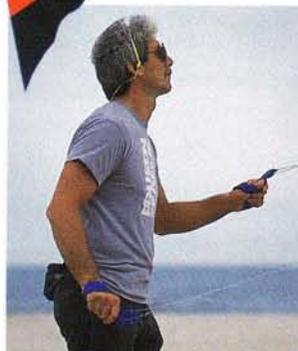
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Photos by Joe Gschwind

HOLD IT! We think you're going to like this one—the new *Kite Lines* Pocket Kite Calendar & Almanac—because it's new in more ways than one.

For starters, it's smaller, to fit easily in pocket or purse or kite bag. And it won't take up much room on your wall, desk or even in your file cabinet. It's a convenient and handy reference tool.

Second, since it covers a six-months-plus period, we are able to list more events in the immediate future.

Third, it will be a *regular part of every issue of Kite Lines* from now on, so we will be “guesstimating” less about events in the future, and you will have the latest additions and corrections.

Inevitably, there are a few kite events that are beyond our reach at the time we prepare the Calendar. Other events are sure to occur on short notice. And then there are those informal flies that many kite clubs hold regularly (monthly, for example) that are too numerous to

fit within the scope of this Calendar.

However, it is our aim to list the maximum number of events that space will permit. But we do not list from secondary sources, so if you are in charge of a kite event (festival, contest, fly, competition, meeting, convention—call it what you will), please tell us about it. Send us the name and date of the event, exact location and a contact name, address and telephone number. Also tell us how many years it has been held and give us details about contests, prizes, awards, registration fees or other restrictions. If we need more information, we will get right back to you.

We have hundreds of kite events on computer, so it is just as easy for us to receive and update information from you as it is to respond to your special requests. Ask us. We promise we'll always be here to provide not only a magazine for you, but also service to you as a friend.

—The Editors



A *pecukan* kite made for a sponsor is carried onto the field at the 5th Annual Bali International Kite Festival, 1988. The high aspect ratio is traditional but the decoration and tail are unusual.

AUGUST 1989

S	M	T	W	T	F	S
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13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

Aug. 5: Hall of Fame Kite Fly, 2nd annual, at the Pro Football Hall of Fame, Canton, OH, USA. Contact: Connie Pederson, Ohio Society for the Cleveland Kites, 12000 Fairhill Road, Cleveland, OH 44120. USA, 216/229-5211.

Aug. 5: Nettuno Kite Festival, Nettuno, Italy. Contact: Guido Accascia, 3 via delle Case Nuove, 02034 Montopoli in Sabina, Italy.

Aug. 6: Dan's Papers Kite Fly, 14th annual, at Peter's Pond Beach, Sagaponack, Long Island, NY, USA. Contact: Dan Rattiner, Dan's Papers, P.O. Drawer AR, Bridgehampton, NY 11932, USA, 516/357-0500.

Aug. 6: Rokkaku Challenge, 2nd annual, at Humber Bay Park, Toronto, Ontario, Canada. Contact: John Compton, Toronto Kite Flyers Group, 280 Wellesley Street East, Toronto, Ontario, M4T 1G7, Canada, 416/922-2580.

Aug. 12: San Diego Kite Festival (formerly Mission Bay Kite Festival), 16th annual, at Seaport Village Park, San Diego, CA, USA. Contact: Carol Hamilton, Seaport Kite Shop, 839-D West Harbor Drive, San Diego, CA 92101, USA, 619/521-2266.

Aug. 12: Hawaii Kite Festival, 7th annual, at Kanioluani Park near Diamond Head, Honolulu, HI, USA. Contact: Robert Loera, Kite Fantasy, 2863 Kalakaua Avenue, Honolulu, HI 96815, USA, 808/922-KITE.

Aug. 13: Fighting Kites, 2nd annual, at McKinley Park, Miami, Florida, USA. Contact: Jeffrey Katoka, Kite Society of Wisconsin, 2266 North Prospect Avenue, Milwaukee, WI 53202, USA, 414/962-6947.

Aug. 16: National Aviation Day, USA, to mark the birth of Orville Wright in 1871.

Aug. 20: Bourne-mouth International Kite Festival, 6th annual, Heringford, Head, near Christchurch, Bourne-mouth, England. Fee for vehicle parking: Bill Baulch, 11 Norman House, Kent Street, Northam SO1 1SS, England, 0703/673-79-90.

Aug. 21-27: Washington State International Kite Festival, 8th annual, at the Washington Beach, WA, USA. Contact: W.S.K.I.F., P.O. Box 797, Long Beach, WA 98631, USA, 216/642-2400.

Aug. 25: Ocean Grove Kite Contest, 10th annual, on the grass in front of the Great Auditorium, Ocean Grove, NJ, USA. Presided in the morning by the Ocean Grove Stunt Kite Contest, 2nd annual, on the beach. Contact: Ivor or Dec Vaffie, Sky High Kites, 50 Pitman Avenue, Ocean Grove, NJ 07756, USA, 201/774-0511.

Aug. 25: Family Kite Fly, 5th annual, on the beach at Wildwood Avenue, Wildwood, NJ, USA. Contact: Department of Tourism, Boardwalk & Schellinger Avenue, Wildwood, NJ 08260, USA, 609/522-1407.

Aug. 27: Nieces, Nephews, Aunts & Uncles Day, 2nd annual, McKinley Park, near Lake Michigan, Milwaukee, WI, USA. Contact: Jeffrey Katoka, Kite Society of Wisconsin, 2266 North Prospect Avenue, Milwaukee, WI 53202, USA, 414/962-6947.

Early August: Candlestick Point Kite Festival, 4th annual, Candlestick Point State Recreation Area, San Francisco, CA, USA. Contact: Alice Romero, Romero Enterprises, 129 Samoa Court, San Ramon, CA 94581, USA, 415/867-8173.

SEPTEMBER 1989

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Sep. 23: United States Air Force Museum Kite Festival, 7th annual, USAF Museum, Wright-Patterson Air Force Base, Dayton, OH, USA. Registration fee: Contact: Jeffrey Katoka, USAF Museum, Wright-Patterson AFB, OH 45433, USA, 513/225-8048.

Sep. 23: International Stunt Kite Festival, Silvaplana, Switzerland. Contact: Rene or Elly Kung, Der Spizler, Hauptstrasse 106, CH-4102 Binningen, Switzerland, 061/472-2235.

Sep. 23: Bristol International Kite Festival, Bristol, England. Contact: Peter G. V. Contact: Martin Lester, 204 Backfield Lane, Stokes Croft, Bristol BS2 8SQ, England, 0272/242-72.

Sep. 24: National West Coast Stunt Kite Championships, 3rd annual, on the Marina Green, San Francisco, CA, USA. Registration fee: Contact: Mike or Charlie McDavid, Kitemakers' Skyworld, 3739 Christie Avenue, Emeryville, CA 94608, USA, 513/652-4003.

Sep. 3: Father's Day Kite Fly, 10th annual, Queens Domain, Centennial, near Hebart, Tasmania, Australia. Contact: Steve Stevenson, Tasmanian Kite Flyers Association, 8 Summerlee Road, Fern Tree, Tasmania 7054, Australia, 002/39-13-55.

Sep. 3: Kite Day, the ninth day of the ninth month, in China for flying kites to send away bad luck for the coming year.

Sep. 9: Aldham Village Kite Festival, at Aldham Village, Essex, England. Contact: Kathleen Pike, Essex Kite Group, 34 Mortimer Road, Rayleigh, Essex, England, 78-05-16.

Sep. 9: Ithaca Kite Festival, 7th annual, at Allan H. Treman State Marine Park, Ithaca, NY, USA. Contact: Jane Lawrence, Chamber of Commerce, P.O. Box 147, Ithaca, NY 14853, 607/273-7080.

Sep. 9: Phi Memory Day, 5th annual, at the Marina, Holbaek, Denmark. In memory of Paul Henningsen, kitemaker, Kiteflyer kite book author, born September 18, 1894. Contact: Jens Brun, Dansk Drag Klub, Ejlbjergvej 4, 4390 Vippered, Denmark, 003/48-27-11.

Sep. 9: Fly a Kite To Fight Multiple Sclerosis, on the field in front of the Great Auditorium, Ocean Grove, NJ, USA. Registration fee (to be donated to the Multiple Sclerosis Society) by Dec Vaffie, Sky High Kites, 50 Pitman Avenue, Ocean Grove, NJ 07756, USA, 201/774-0511.

Sep. 10: Duxbury Beach Kite Fly, 8th annual, Duxbury Beach, Duxbury, MA, USA. Contact: Dick DiBari or Bob Clark, Fly a Kite Fly, 1000 Ocean Street, Middle Street, Plymouth, MA 02160, USA, 508/746-0555.

Sep. 10: Flexi-Fox Festival, 4th annual, at Cleveland Lakefront Park, Edgewater, Cleveland, OH, USA. Contact: Connie Pederson, Ohio Society for the Cleveland Kites, 12000 Fairhill Road, Cleveland, OH 44120, USA, 216/229-5211.

Sep. 10: Silverton Kite Festival, Silverton, CO, USA. Altitude of field is 9,000 feet! Contact: Merle Swift, Banner Day Company, P.O. Box 873, Durango, CO 81324, USA, 303/337-0727.

Sep. 16: Frank Ross Memorial Kite Fly, 12th annual, McKinley Park, near Lake Michigan, Milwaukee, WI, USA. Contact: Jeffrey Katoka, Kite Society of Wisconsin, 2266 North Prospect Avenue, Milwaukee, WI 53202, 414/962-6947.

Sep. 16: Club L'Apollone Festa Dell'Apollone, 82nd annual, at Villa Demidoff, Florence, Italy. For elementary and high school students. Contact: Pecchio Vanni, Hobby Model, Via Gramsci 52, Florence, Italy.

Sep. 16: Riverfront Kite Festival, 3rd annual, Harriet Island, St. Paul, MN, USA. Contact: Jim Ogden, Minnesota Kite Society, P.O. Box 776, Wayzata, MN 55391, USA, 612/476-2061.

Sep. 16: Get High On Kites—Not Drugs, 2nd annual, Desota, TX, USA. Contact: Bob Smith, Jewels Of The Sky, 5429 McConnell, Fort Worth, TX 76134, USA, 214/221-5515.

Sep. 23: Catch The Wind Kite Festival, 2nd annual, Lorain State Historical Site, Cazenovia, NY, USA. Contact: Nancy Edwards, Friends of Lorain, RD 5, Cazenovia, NY 13033, USA.

Sep. 23-24: Sunfest Kite Festival, 8th annual, on the beach at 3rd Street, Ocean City, MD, USA. World record setting attempts. Prizes include gold medal \$200 fee for record. Contact: Bill or Mary Ochs, The Kite Loft, P.O. Box 551, Ocean City, MD 21842, USA, 301/289-7855.

Sep. 24: Basler Draechfest, 5th annual, Basel, Switzerland. Contact: Rene or Elly Kung, Der Spizler, Hauptstrasse 106, CH-4102 Binningen, Switzerland, 061/472-2235.

Sep. 29-Oct. 1: Fall International Kite Festival, 12th annual, at the D River Wayside, Lincoln City, OR, USA. Contact: Jeffrey Lake, Catch the Wind, P.O. Box 1923, Florence, OR 97439, USA, 503/997-9500.

Sep. 30: Northern Berkshire Fall Foliage Kite Festival, 12th annual, at the Berkshire Falls, Adams, MA, USA. Contact: Ed or Pat Bishop, 518/733-5638.

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OCTOBER 1989

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Oct. 1: British Kite Flying Association Autumn Rally, 12th annual, at St. Andrew's Aerodrome, near Biggleswade, Bedfordshire, England. Contact: Ron Moulton, B.K.F.A., Wolsey House, 23 Wolsey Road, Hemel Hempstead, Hertfordshire HP4 5SS, England, 1142-4121.

Oct. 1-2: Walkenstrasser Flugtag, 9th annual, West Germany. Contact: Jürgen Lianen, Walkenstrasser, Hamannstrasse 32, D-2000 Hamburg 13, West Germany, 040/45-37-50.

Oct. 4-8: American Kitefliers Association Convention, 12th annual, Honolulu, HI, USA. Registration fee: Contact: Robert Loera, Kite Fantasy, 2863 Kalakaua Avenue, Honolulu, HI 96815, USA, 808/922-KITE.

Oct. 7: Manzanita Merchants Association Kite Fly, 4th annual, on the beach at Laneda Avenue, Manzanita, OR, USA. Donation required, one can of food for local charity. Contact: Vicki Strang, Manzanita Merchants Association, P.O. Box 164, Manzanita, OR 97130, USA, 503/368-5499.

Oct. 7: October Kite Festival, 2nd annual, on the beach at Ocean Shores, WA, USA. Contact: Mike Brown, Ocean Shores Kites, P.O. Box 602, Ocean Shores, WA 98569, USA, 206/289-4103.

Oct. 7: Rockaway Beach Stunt Kite Flying Contest, on the beach at Rockaway Beach, Ocean City, NJ, USA. Contact: Lynn E. Streiner, Chamber of Commerce, P.O. Box 198, Rockaway Beach, OR 97136, USA, 503/335-8180.

Oct. 7-8: Autumn Kite Meeting, 8th annual, at the Castle of Wanze, Trois-Poisons, Belgium. Contact: Jacques Durieu, Le Neuvoy Cervoliste Belgie, 45 rue de la Houssiere, B-85877 Hevillers, Belgium, 32/23-22-22.

Oct. 8: One Sky One World International Kite Fly for Peace, 4th annual, locations worldwide. Contact: Jane Parker-Denro, One Sky One World, P.O. Box 11149, Denver, CO 80211, USA, 303/433-9518. (To mention only two of the

many OSOW host locations, there's the beach at Ocean Shores, Washington and the Middlebury Festival in Vermont. Contacts respectively are: Mike Brown, Ocean Shores Kites, P.O. Box 607, Ocean Shores, WA 98569, USA, 206/289-4103; and W. G. Caldwell, Windhorner Kites, P.O. Box 652, Middlebury, VT 05753, USA, 802/388-9782.)

Oct. 14: KiteXcitement, 4th annual, at the National Soaring Museum, Harris Hill Park, Elmira, NY, USA. Contact: Bill Gallagher, National Soaring Museum, RD 3 Harris Hill Road, Elmira, NY 14903, USA, 607/734-3128.

Oct. 14-15: Hair of the Dog Kite Fly, 5th annual, on the beach, Seaside, CA, USA. Contact: Corey Jensen, Windhorner Kites, 585 Cannery Row, Monterey, CA 93940, USA, 408/373-7422.

Oct. 14-15: Nagasaki International Kite Festival, at the Seaside Nagasaki Diagonal Grounds, Nagasaki, Japan. Contact: Koichi Matsuda, Nagasaki Kite Promotion Association, 4-1 Sakuramachi, Nagasaki City 850, Japan, 0958/45-72-39.

Oct. 21: Bloomsburg University Sequenential Kite Fest, 13th annual, at the Upper Campus, Bloomsburg University, Bloomsburg, PA, USA. Contact: Joe Vaughan, Grandmaster Kites, P.O. Box 276, Millville, PA 18631, USA, 717/759-3176.

Oct. 21: Ekstra Blader Kite Festival, 5th annual, Dyrhøjvej, by the Hjortekædet, Copenhagen, Denmark. Contact: Marianne Nielsen, Ekstra Bladet, Raaholupladsen 13, 1585 Copenhagen, Denmark, 01/1-85-11.

Oct. 21: Outer Banks Stunt Kite Contest, 2nd annual, Jockey's Ridge State Park, Nags Head, NC, USA. Contact: Anne McCarter, Jockey Harek Kites, P.O. Box 340, Nags Head, NC 27959, USA, 919/441-1744.

Oct. 21-22: Cranberry Kite Festival, 4th annual, on the peninsula, Long Beach, WA, USA. Non-competitive. Contact: Jim or Kay Basing, Long Beach Kites, P.O. Box 117, Long Beach, WA 98631, USA, 206/665-5744.

NOVEMBER 1989

S	M	T	W	T	F	S

Nov. 1: Todos Santos (All Saints Day), Santiago de Scaquepete, Guatemala. A traditional day for flying kites over cemeteries to release souls of the dead.

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DECEMBER 1989

S	M	T	W	T	F	S

Dec. 3: International Invitational Open Peanut Butter Cookie Kite Fly and Bake Off, 6th annual, on the beach at Seaside, NJ, USA. Awards for best cookies and flyables. Contact: Alan E. Turner, Chick Judge Trophy Maker, 1628 South Crescent Boulevard, Yardley, PA 19067, USA, 215/493-2153.

Dec. 5-25-Jan. 26: Asian Kite Flying Championship, 2nd annual, at the Mahabali Kite Contest, West Bombay, India. More than 50 teams from India and other Asian countries compete for gold and silver medals. Contact: S. D. Mane, Maharashtra Rural Games Association, Khikse Kendra, S.M. Road No. 2, Kandivli, Bombay 400067, India, 69-33-26.

Dec. 31-Jan. 1: Kite Day International, on Sunrise Beach, Muzienburg, Cape Town, South Africa. Includes all-night kite flying and fishing for sharks. Contact: Gary Silbermann, Ethical Arts, 121 Leinster Court, Capetown 8001, South Africa, 021/24-84-84.

JANUARY 1990

S	M	T	W	T	F	S

Jan. 1: Protect the Bowls Kitefly, 17th annual, at Golden Gardens Park, Seattle, WA, USA. Contact: Ken Conrad, Protect the Bowls Society, 7514 Ravenna Avenue N.E., Seattle, WA 98115, USA, 206/624-6886.

Jan. 1: Toronto Winter Kite Fly, 4th annual, at Humber Bay Park, Toronto, Ontario, Canada. Contact: John Compton, Toronto Kite Flyers Group, 280 Wellesley Street East, Toronto, Ontario M4X 1K7, Canada, 416/922-2580.

Jan. 13-14: Rock Cut Winter Carnival, 17th annual, at Rock Cut State Park, northeast of Rockford, IL, USA. Contact: Jim Fulgenzi, Department of Recreation, 254 S. Second St., Springfield, IL 62701, USA, 217/782-7454.

Jan. 14: Utran (or Makar Sankranti), to mark the Winter Solstice. A traditional day for millions of people to fly kites all over India, especially in Ahmedabad.

Jan. 15: Midnight Festival of the Lanterns Kites, traditional day for flying kites throughout China. Also known as the Hour of the Ox Festival of the Lanterns Kites.

Jan. 28: Radio AVON Kite Day, 6th annual, at Hagley Park, Christchurch, New Zealand. Contact: Des Pittfield, Seagull Kites, 4 Queens Avenue, Waikuku Beach, North Canterbury, New Zealand, 0502/27144.

Jan. 28: Pasifika Kite Festival, part of the Te Harehara Ma Festival, on the Whangaporo Peninsula, Hibiscus Coast, north of Auckland, New Zealand. Preceded by two weeks of kite workshops for children and adults. Contact: Colin Mackay, Kites That Fly, RD 3 Main Road, Albany, Auckland, New Zealand, 09/349-8534.

FEBRUARY 1990

S	M	T	W	T	F	S

Feb. 8-11: New Zealand 1990 International Kite Festival, at Anderson Park, Napier, New Zealand. A celebration of New Zealand's 150th birthday. Contact: James White, New Zealand Kitefliers Association, P.O. Box 665, Napier, New Zealand, (64) 70/354-499.

Feb. 10-18: Australian National Kiting Festival, Melbourne, Australia. Contact: The Secretary, Australian Kite Association, 10 Elm Grove, East View, Victoria 3102, Australia, 03-859-1763.

Feb. 16-18: Festival Internacional de Chirings de Lajas, 16th annual, Lajas, Puerro Rico, USA. Contact: Jose Rodriguez, P.O. Box 17362, Ocala, OR 06667, USA, 809/899-4100.

MARCH 1990

S	M	T	W	T	F	S

Mar. 1-25: Royal Thai Kite Competition, 65th annual, on the Pramin Grounds (Sanam Luang), Bangkok, Thailand. Competition for the King's Trophy. Contact: Ron Spaulding, 47 Mevheniet Soi 24, Sukhumvit Road, Bangkok 10110, Thailand, 258-8478.

Mar. 25: Hawaii Challenge Stunt Kite Championships, 7th annual, Kapilani Park, Honolulu, HI, USA. Entry fee includes shirt and banquet. Contact: Robert Loera, Kite Fantasy, 2863 Kalakaua Avenue, Honolulu, HI 96815, USA, 808/922-KITE.

Mar. 27: Fort Worden Kitemaker's Conference, 7th annual, at Fort Worden State Park, Fort Worden, WA, USA. Fee of \$85.00 includes room and meals. Contact: Ilye Morgan, REARIT, Contact: Russell Turnbull, Radio Hauraki, P.O. Box 1480, Auckland, New Zealand, 93/01-8499.

Mar. 5: Clean Monday, traditional day for flying kites throughout Greece, marks the beginning of Lent (40 days before Easter Sunday).

Mar. 17: Family Kite Fly, 3rd annual, at Spiro Mounds State Park, Spiro, OK, USA. Contact: Dennis Peterson, 2 Box 339A-A, Spiro, OK 74359, USA, 919/962-2062.

Mar. 17-18: Reno-Sparks International Kite Festival, 3rd annual, at Rancho San Rafael Park, Reno, NV, USA. Contact: Special Events Dept., Convention & Visitors Authority, P.O. Box 837, Reno, NV 89504, 702/827-7636.

Mar. 18: Family Day Kite Festival, 8th annual, at Shoreline Park, Santa Barbara, CA, USA. Contact: Neeraj Kulkarni, Ocean Fly Fly, 1228 State Street, Santa Barbara, CA 93101, USA, 805/966-2694.

Mar. 18: Waco Wind Festival, 8th annual, at Speegleville Park, Waco, TX, USA. Contact: Annalyn Calley, Convention & Visitors Bureau, P.O. Box 2570, Waco, TX 76702, USA, 817/753-2621.

Mar. 25: Southwest Louisiana Kite Contest, 5th annual, at the Civic Center Grounds, Lake Charles, LA, USA. Contact: Gene Dolan, 2401 5th Avenue, Lake Charles, LA 70601, USA, 337/478-1468.

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